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ARCHITECTURE *

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VOL. L DECEMBER, 1924 NO. 6

The Leslie Lindsey Memorial

Being the New Chapel of Emmanuel Church, Boston, Mass.

Allen & Collens, Architects

THIS CHAPEL, CONSECRATED
IN THE YEAR OF OUR LORD 1924
IS ERECTED BY WILLIAM
AND ANNE HAWTHORNE LINDSEY
IN LOVING MEMORY OF THEIR DAUGHTER
LESLIE LINDSEY
BORN THE 11TH DAY OF JUNE, 1886
AND HER HUSBAND
STUART SOUTHAM MASON
OF SPROUGHTON, IPSWICH, ENGLAND
BORN THE 5TH DAY OF FEBRUARY, 1885
THEY DEPARTED THIS LIFE TOGETHER
MAY 7, 1915
IN THE SINKING OF THE LUSITANIA

THIS inscription in stone on the west wall of the chapel relates in few words a tragedy of the Great War which was the inception of the Leslie Lindsey Memorial Chapel. On the east wall appears another inscription, equally tragic, for William Lindsey, who, "combining knowledge of the past with efficiency of the present," co-operated with artists and craftsmen to erect this chapel, a beautiful memorial redounding to the glory of God, but died before the completion of his dream.

The Leslie Lindsey Memorial Chapel is conceived in no one distinct type of architecture, but combines features from the best examples of the various periods of English Gothic. In general form and proportions it follows the precedent of the English Perpendicular, but the lower arcading of the nave is decidedly Early English, and the tracery of the windows has certain features that recall the Decorated Period. The charm of most of the early ecclesiastical buildings in England is due largely to mixture of styles incidental to construction at various

periods, and it was felt that this departure from a fixed type would enhance the architectural value of the work. Certain conditions of the site, such as a narrow lot and the blank walls of the adjoining building, contributed to the difficulties of design, but provided eccentricities of treatment which have proved far from detrimental.

The exterior is built of the same stone as Emmanuel Church, a Roxbury conglomerate, which is rich in brown and warm colors, offset by the lighter quality of the Indiana limestone trim and tracery. Under the great nave window a low-vaulted entrance porch leads into the nave, whose stone vault rises to a height of forty-six feet, extending to the north seven equal bays a distance of eighty-five feet. The last bay forms the chancel, with a deep traceried sanctuary arch. The side walls are pierced with windows only in two places, but this

lack of fenestration is counterbalanced by an applied arcade with a rich carved cresting and the panels of warm Bath stone, the lofty slender columns, and the rich fan tracery and carved bosses of the groined ceiling.

The entrance and vestibule doors are richly carved in oak, with saints, angels, and foliated design. Immediately inside these doors to the left is the stone font with a pinnacled and traceried oak canopy above the iron-bound door which opens onto the silver baptismal bowl.

The floor of the nave is of Travertine marble, a happy contrast to the Botticini marble of the chancel, floor, and steps, and the Bath stone chancel rail and the Caen stone pulpit base. The pulpit, choir stalls, and lectern are of oak, richly carved, the lacework patterns of the canopies rising in crocketed finials against the warm background of the Bath stone walls. The choir stalls are designed with the



mediæval misericordia seats such as one sees to-day in the ancient choirs of the monastic orders, where the hinged seats were so arranged that the monks could get some partial support when standing through the long ceremonies. These misericordia seats are carved in grotesque and foliated bosses underneath, as was customary in the early work. The sanctuary rail has been kept open and in simple design, so as not to dwarf the apparent depth of the chancel. A canopied ambry, its doors banded with ornamental iron, occupies a niche at the left of the altar, and a similar canopied credence ornaments the right wall.

One of the interesting features of the Chapel is the symbolism that has been employed throughout the carving in wood and stone. Bosses, pendants, saints, and angels all contribute to this human interest. Birds, animals, flowers, various objects, and even colors, have their ecclesiastical interpretation, so that the Chapel tells a story from the entrance door to the bosses of the groined ceiling.

All of these emblems bear some relation to events in the lives or martyrdom of the Saints, each of which is a story in itself.

Even the vaulted ceiling is replete with religious significance, the bosses in the six bays marking from the entrance bay to the chancel bay an ascending scale in the Ecclesiastical Hierarchy.

The altar is built of plainly worked Bath stone covered by a single slab measuring eleven feet by four and having a moulded plinth which shows beneath the "decent carpet of silk," prescribed by ecclesiastical rule, and which here, following a mediæval precedent, does not reach to the ground. It is of blue silk powdered with pots of white lilies and purple carnations between gold fleur-de-lis; and on the upper strip, technically called the "frontlet," the opening words of the Magnificat are embroidered in gold.

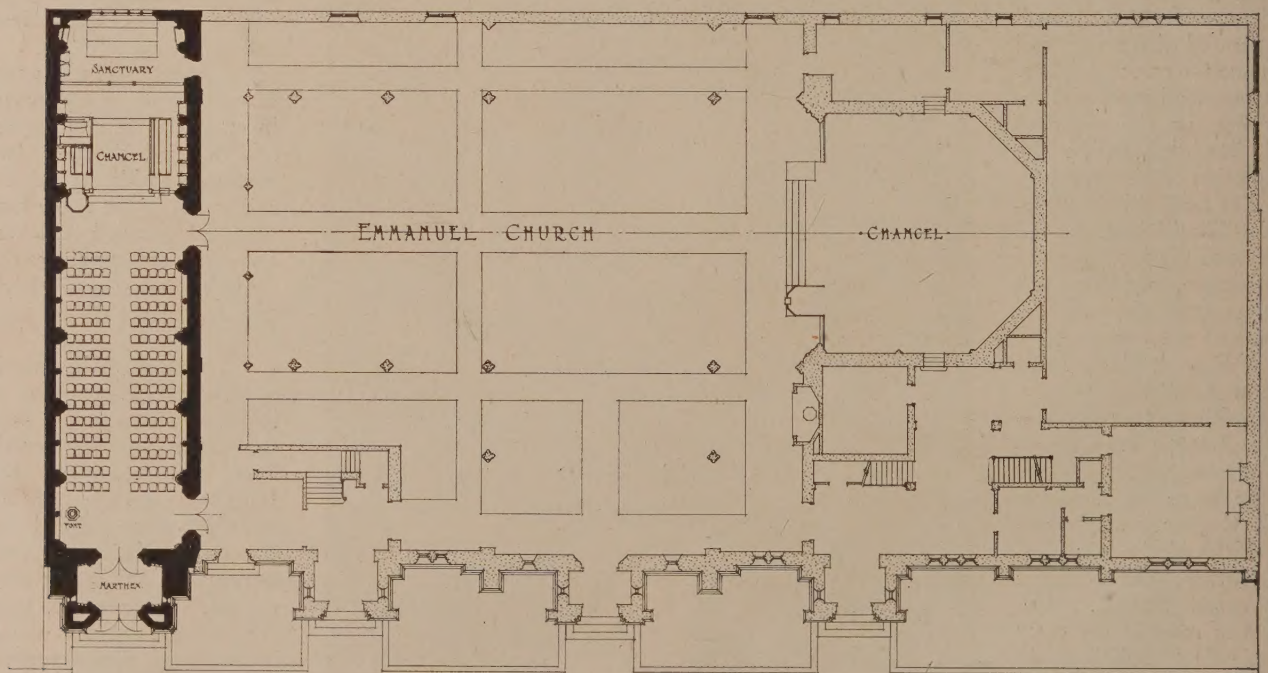
Still longer than the altar and about the same height is an "upper frontal," or reredos, of pure white Nottinghamshire alabaster carved in low relief and decorated in gold and color. It measures thirteen feet two inches by three feet

two and one-half inches and has five pictures, each in one piece of alabaster and enclosed by a trailing rose, the stem of which forms the cross of the central picture of the living Saviour, lifted up to draw all men to Him, and between His Mother and the Beloved Disciple who stand on the branches beneath.

This reredos owes its existence to the knowledge of the English alabaster reredoses which in the Middle Ages were sent all over Christendom as then known, and now adorn its museums, but in design resembles these reredoses only in the treatment of its coloring. It is interesting to note that in this respect the mediævals followed the example of the Greeks, who colored their ordinary marbles; but when they employed so fine a marble as that of Paros, which closely resembles this English alabaster, they left the flesh untouched except by a preparation of wax, and merely penciled the features with color and gilded the hair and drapery. A partially surviving example is the Hermes at Olympia. But it would seem that the Nottingham quarries did not yield pure white blocks of a size which has enabled us to-day to produce these slabs and the three main figures in full relief above the reredos in single stones.

The altar-screen is of Caen stone entirely covered, as is traditional, with gold and color. It is often felt, and sometimes said, that it is impossible for a modern chisel or pencil to attain to the character and skill of mediæval cutting and painting, and the chiseling of much of the imagery, however well it may compare with such work as passes to-day, will not in every detail remove this impression. But it is suggested as of interest that the pencil work of the decoration and the cutting of the tabernacles may bear comparison with the finest mediæval workmanship, and that none of it is a lost art if approached in a scientific way.

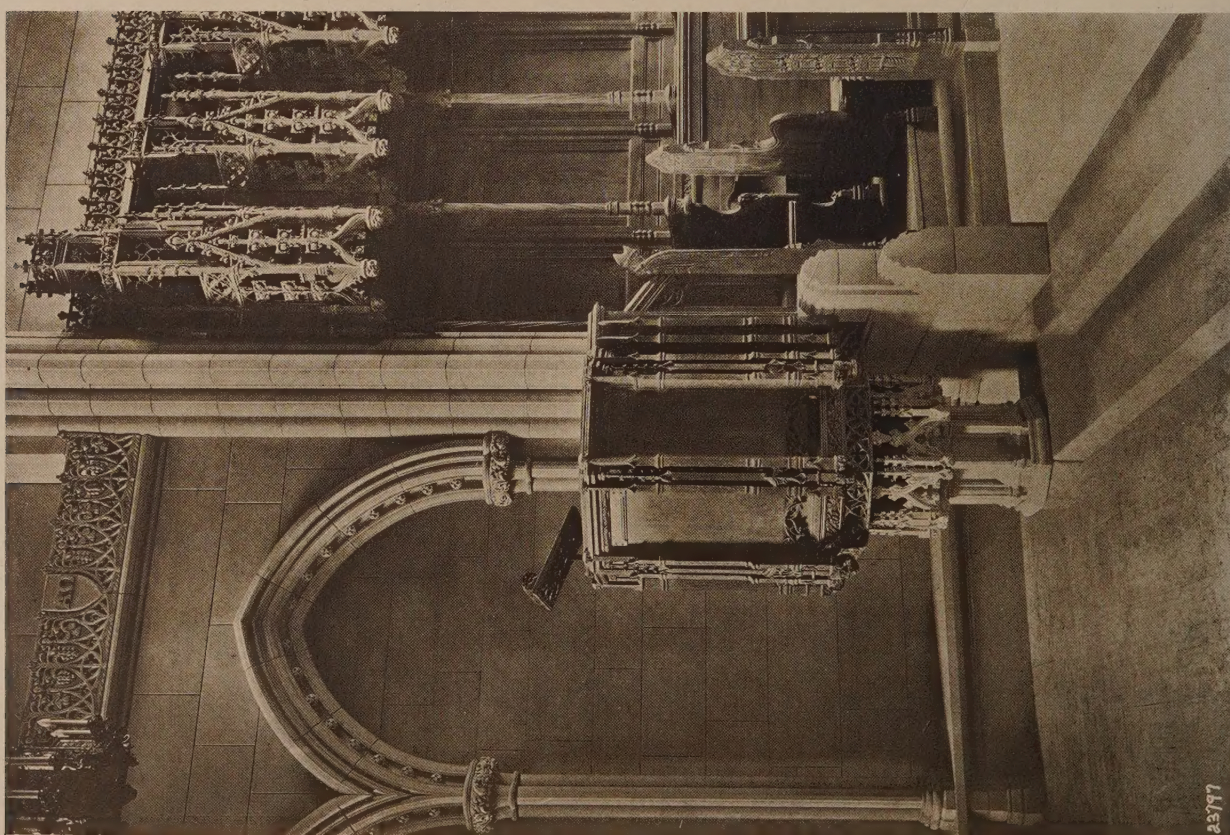
Some of the stones are large to contain so much intricate cutting without a fault, and are only second in this respect to their immediate predecessors of the Stanton Chantry at St. Albans, Holborn.





AUDITORIUM, LESLIE LINDSEY MEMORIAL, EMMANUEL CHURCH, BOSTON, MASS.

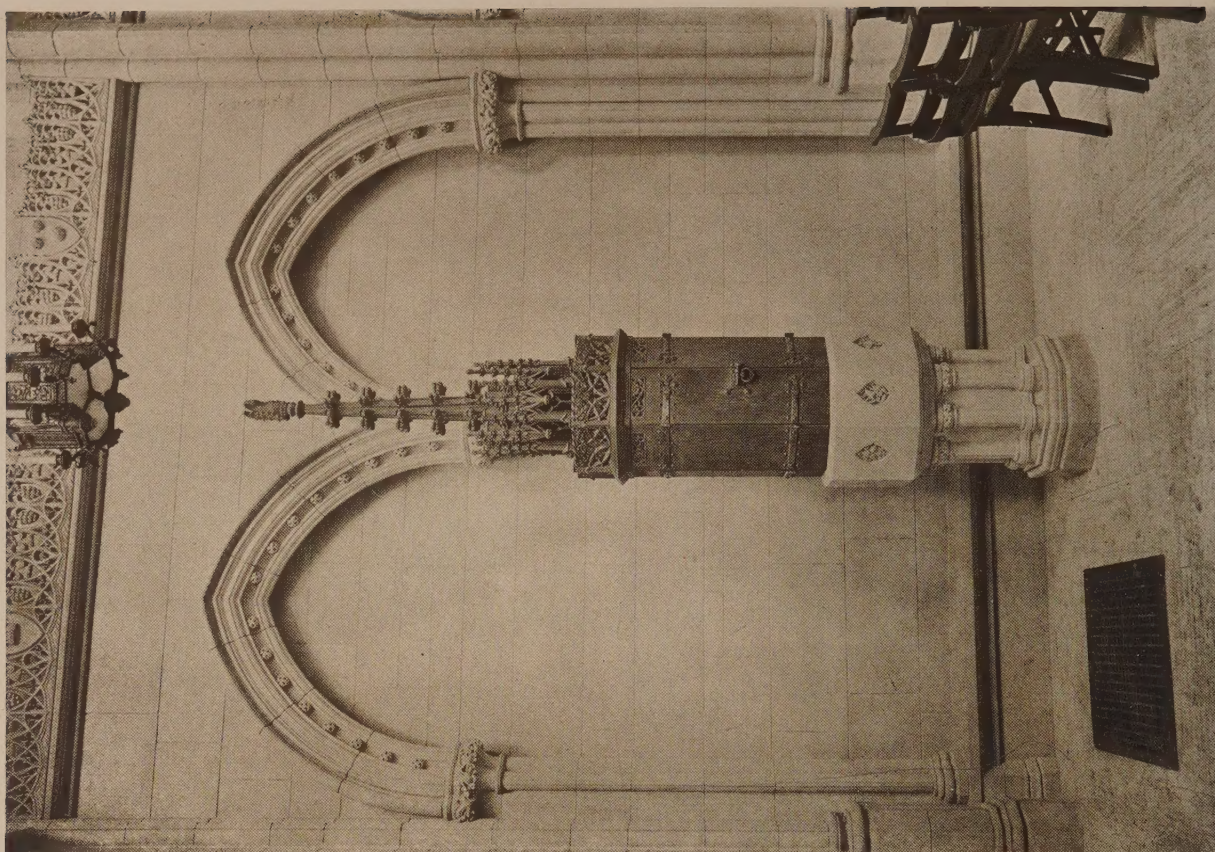
Allen & Collens, Architects.



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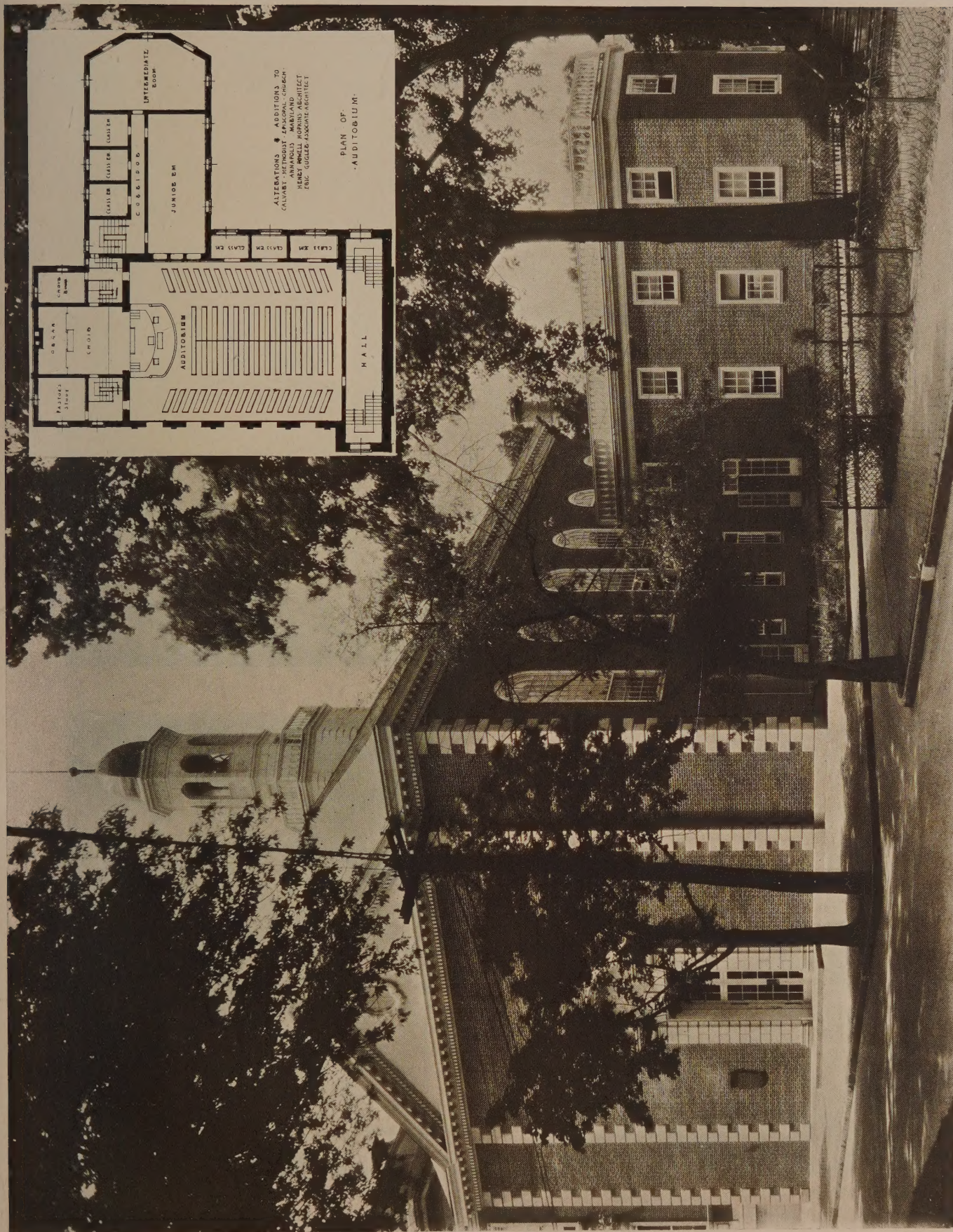
PULPIT.

LESLIE LINDSEY MEMORIAL, EMMANUEL CHURCH, BOSTON, MASS.



FONT.

Allen & Collens, Architects.

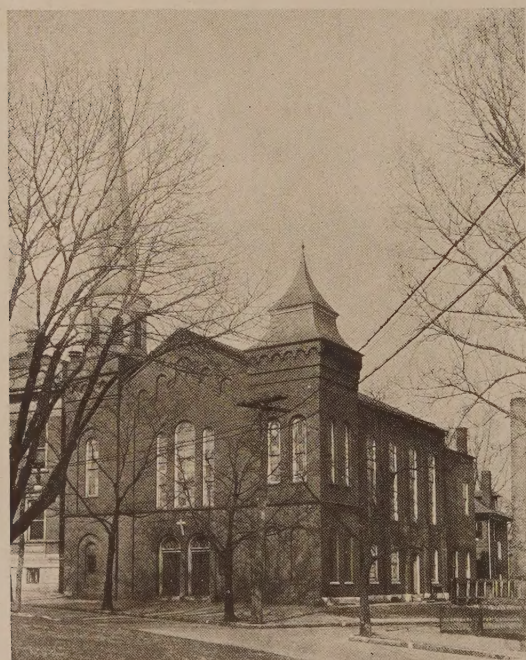


ALTERATIONS AND ADDITIONS, CALVARY M. E. CHURCH, ANNAPOLIS, MD.

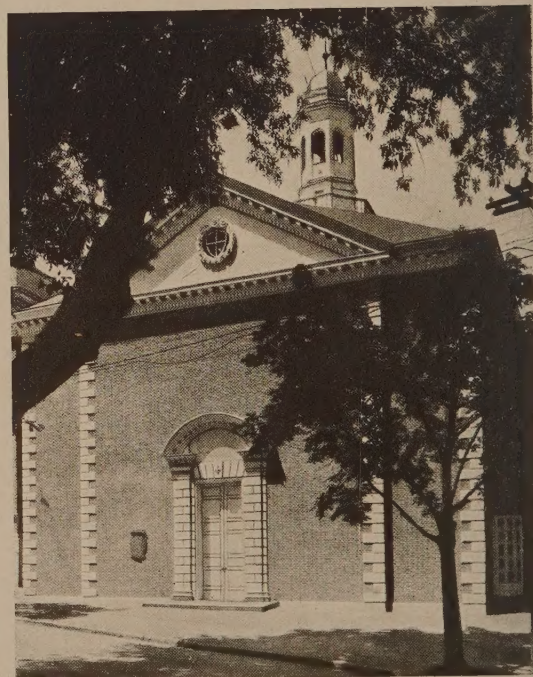
Henry Powell Hopkins, Architect. Eric Gugler, Associate Architect.



CHURCH AUDITORIUM.



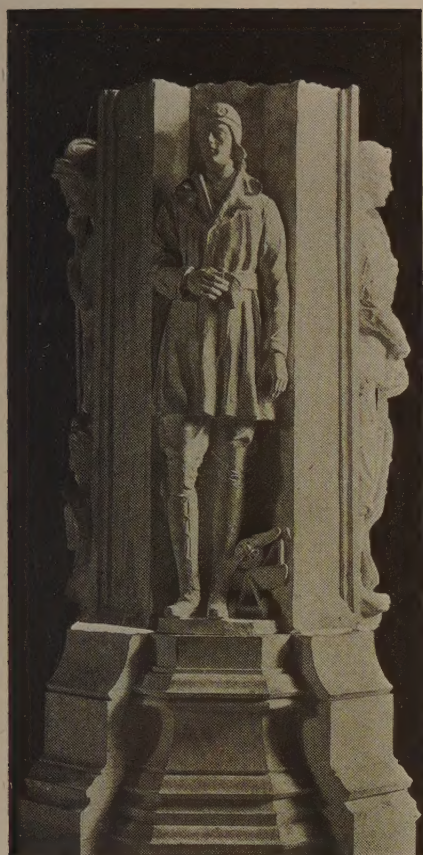
BEFORE ALTERATIONS.



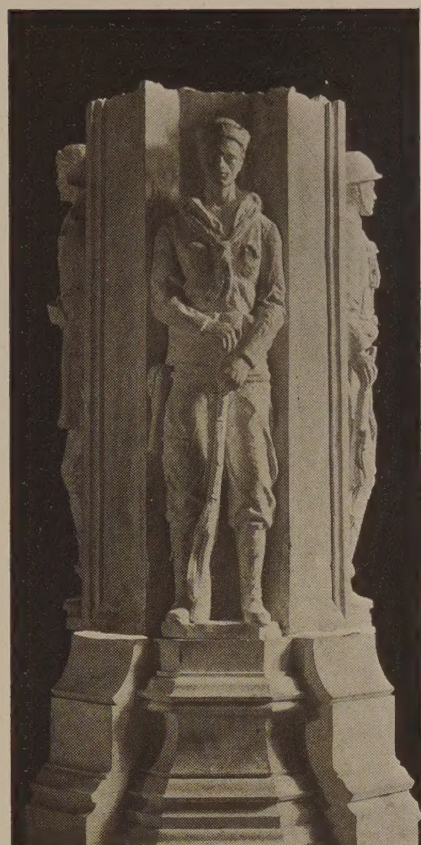
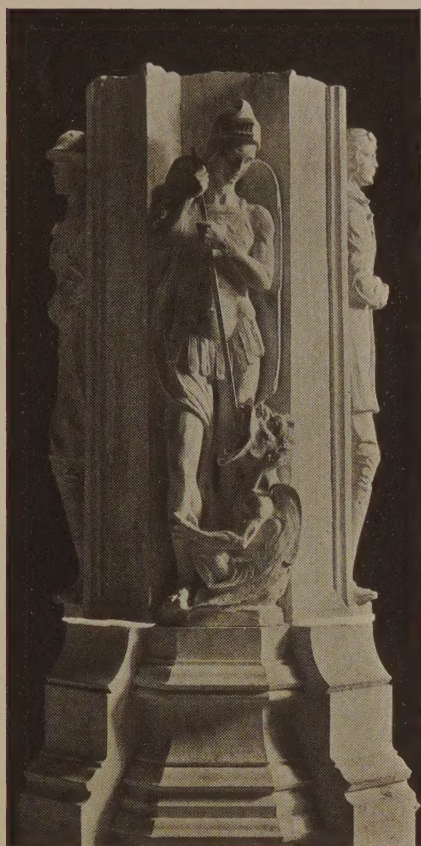
AFTER ALTERATIONS.

ALTERATIONS AND ADDITIONS, CALVARY M. E. CHURCH, ANNAPOLIS, MD.

Henry Powell Hopkins, Architect. Eric Gugler, Associate Architect.



Details, War Memorial Cross, Cathedral Square, Laramie, Wyo.



Thomas, Martin & Kirkpatrick, Architects.

War Memorial Cross, Cathedral Square, Laramie, Wyoming

Thomas, Martin & Kirkpatrick, Architects

LARAMIE, the highest city in the United States, lying in the heart of the valley of the same name, was certainly well chosen for the site of the State University of Wyoming; and the Episcopal Church, following the unusual foresight of the Bishop of Wyoming, years ago chose Laramie as its cathedral town, in order that it might mould the ever-increasing number of men and women passing through this most up-to-date Western university.

The cathedral was begun many years back, but only lately has the rest of the block been purchased, the existing buildings moved or raised, and the comprehensive development of a real cathedral square commenced, under the guidance of Bishop Thomas. To the existing cathedral, deanery and canonry, are to be added the social hall, administration tower, library, bishop's house, and possibly certain dormitory units.

The need of some war memorial for those of the church who had given of themselves in the Great War happily coincided with the need of a central note of interest for the large central open-air-service quad, formed by the cathedral

buildings; and the result is the war cross, given by the people of the diocese.

The shaft of limestone, twenty-five feet high and capped with the cross, has grouped about its base four figures in bronze, representing a soldier, a sailor, an aviator, and St. Michael.

The chief difficulty with a figure used architecturally in a secondary manner and not primarily as a statue, arises, particularly in Gothic and allied styles, from an attempt to have it either too realistic or too archaic. That a happy medium can and should be found is, we believe, fairly well-expressed in each of the accompanying photographs. The pose of each figure and the hang of the folds of the garments give a result just sufficiently conventionalized to make the statue play the secondary part that it should play, not being so realistic that it appears to be stepping forth from its surroundings to extend a cordial greeting, and not so terribly conventionalized that it appears to repose in an embalmed attitude that would do credit to an Egyptian mummy. The figures were executed by Louis Milione, sculptor, a pupil of Grafley.



WAR MEMORIAL CROSS, CATHEDRAL SQUARE, LARAMIE, WYO.

Thomas, Martin & Kirkpatrick, Architects.

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Editorial and Other Comment

Good Doctrine

OUR church architecture has been always a fruitful topic for discussion, and all over the country in the smaller towns, yes, and in many of the larger ones, are churches that belong in the "what-is-it" class of structures. It is really surprising to see how ugly and inadequate a little church can be made, when you think of all the good examples available for reference. Building committees in rural communities are apt to call in the local builder and contractor and to let him do his worst. The idea of putting the matter into the hands of a competent architect is too often thought of as a needless and unnecessary expense. Here and there comes light from a travelled member of a committee, or from some one who may have had the privilege of an architect's help in building an attractive home. But the fact of the matter is that in spite of all our efforts to enlighten the world at large concerning the true value of an architect's services, there are yet communities where his talents are but little known and where the dire results of this are made painfully manifest. Mr. Cram has said that our church architecture is improving, and no one is better qualified to know, and if all the powers-that-be in the multitude of church denominations would put themselves on record in the following terms taken from a little periodical known as *Lutheran Church Art*, we shall soon have fewer causes to complain of our ugly little meeting-houses:

"The wisest thing that a congregation can do, no matter how small their building project, is to retain the best and most experienced church architect possible, and pay him six per cent or eight per cent for his work. He will save more than that before the job is finished. The result will be a real church, and not a what-is-it sort of a structure.

"Another supreme stroke of wisdom is to restrict the powers of the building committee. By a resolution passed by the voting members, define their powers, restricting them to financial matters only. Let them state to the architect in a general way the number of sittings required, and the precise amount of money available. But, since he is a trained man, let him determine all matters of plan, design, detail, arrangement, the nature of the building materials, thickness of walls, size of openings, roofing material, etc.

"Too many cooks spoil the broth, and too many designers have spoiled countless thousands of churches, and have wasted thousands of dollars of Church Extension money in needless blunders that might easily have been avoided, had good judgment been used instead of swollen individualism. A cut-rate architect and a meddling building-committee is a combination which most surely will place satisfactory results beyond the limit of the remotest possibility."

Practical Articles

BE it known that the editor is always in a receptive state of mind concerning articles of a practical nature that may be the outcome of special experiences. We are on the lookout for ways and means to make our magazine of the

greatest possible usefulness, and it is only with the co-operation of our readers that we may realize our ambition, or rather our desire to be of the widest service. Getting into print is not such a terribly serious matter if you have something to say, and in our experience it is the man who has something to say to the purpose who is most read. ARCHITECTURE is not a "literary" magazine, it cares more about the plain statement of useful facts than it does about mere ornament, and our pages are glad to welcome brief articles of a helpful nature. Of course, our space is limited, and we should be much embarrassed if all of our subscribers wanted to say something at the same time!

For Better Methods of Bringing Work and Worker Together

AVERAGING good and bad years, ten to twelve per cent of all the workers in the United States (several millions of men and women) are out of work all of the time;

Widespread unemployment is now a constant phenomenon with far-reaching economic, social, psychological, and moral bearings;

In seeking work through certain types of commercial or fee-charging employment bureaus—particularly those dealing with unskilled and casual labor—thousands of men and women are being exploited;

Public employment bureaus or exchanges can make a material contribution toward the solution of this and other phases of the ever-recurring problem of unemployment.

These are some of the facts brought out in the introduction to the report of a five-year study of employment methods, needs, and agencies made public by the Russell Sage Foundation. It is made clear in the report that the figures on unemployment, while representing the average of the country's experience during the last two decades, are not necessarily indicative of present conditions or of the last year.

The investigation, which extended into more than seventy cities and thirty-one states and Canada, has just been completed. The survey was conducted by a staff of trained field investigators, all of whom had previously been engaged in employment work, under the direction of Shelby M. Harrison, director of the Foundation's Department of Surveys and Exhibits.

Practically every known means for bringing work and the worker together was studied. The "want ad" pages of newspapers, the fee-charging labor agencies, the free public employment office, the labor union's method of securing work for its members, the fraternal order's activities in this field, the practice of applying for work at the factory gate or the office door, all were investigated. The report will point out the advantages and disadvantages to employer and employee in each of these means and its effect on the general employment situation.

A special study was made of the situation in Ohio, Wisconsin, Massachusetts, and New York, where there has been the greatest development of organized public employment work. Separate studies were made also of the special problems of farm labor, migratory and casual workers, junior workers, handicapped workers, immigrants, Negro workers, and professional workers.

After citing the fact that each year from 1,000,000 to 6,000,000 persons are out of work for weeks and sometimes for months at a time, the introduction to the foundation's forthcoming report says:

"There is something which we are just beginning to recognize—a resentment on the part of the workers against an industrial situation in which such insecurity and uncertainty of employment are possible. It is not only unemployment, but the fear of unemployment—the knowledge that any job is uncertain and insecure, subject to the fluctuations of economic change—which is responsible for much of our present industrial unrest."

This situation, the report will show, has been aggravated by the fact that the unskilled worker who has sought employment through certain types of labor agencies in many cases has been subjected to such abuses as: paying a fee and then failing to get a job; being sent to distant points where no work or where unsatisfactory work exists but whence he could not return because of the expense involved; being employed through collusion between the agent and employer and after a few days' work being discharged to make way for a new workman while the agent and employer divided the fee.

The report of the Russell Sage Foundation says:

"One conclusion drawn from such findings has been that we must have public bureaus to take the place of the private fee-charging agencies. That is, in so far as people are informed on the question and have expressed their sentiments, most of them appeared convinced that we should have public employment bureaus because of the abuses of some fee-charging agencies, quite regardless of other considerations. In addition, however, the feeling has been growing that this service in the nature of the case should be free, and that the very fact of fee-charging carries with it a dangerous temptation to abuse and fraud.

"It is obvious, of course, that if the public exchanges could by legislation or court action secure exclusive sway in the whole field, the fee-charging agencies with the abuses attributed to them would be bound to disappear. And such a plan, aimed to abolish these agencies, particularly those dealing with unskilled, semi-skilled, casual, and other non-professional workers, is what some advocates of the public exchanges would adopt. There is, however, serious question whether action of that kind, if it were possible, would be wise. The mere abolition of a thing does not always help the situation. That is only negative. It is more important to build up a good constructive competing organization. The abolition alone of the private fee-charging agencies would not necessarily bring about a system of public employment bureaus nor an efficient system. With all their abuses the private agencies are performing a function needed in the absence of an adequate public system; they should not be abolished until something is provided to take their place.

"It would seem far more practical to set to work on a positive programme of improving the public bureaus, for if we get a good public service, the fee-charging agencies and their abuses will then become a minor question. The private agency will be eliminated because it will be useless; or we shall

learn how to improve it through experience gained in the public bureaus."

The Public Should Be Informed

NO industry so important as the building industry at this time can be considered apart from the interests of the community, and therefore any attempt to deal with the problems arising must give heed not alone to labor and the employer, but to the public as well.

Any action taken without regard to the rights or views of all three groups tends to lessen participation in the industry by that element whose interest is unfavorably affected and so leads to the natural development of corrective conditions more favorable to renewed participation by the disturbed group and so to the continued co-operation of all the essential factors.

But while the three groups are interdependent, for very many reasons the interest of the public must be recognized as paramount. The builder and labor recognize that the industry thrives or languishes as the buyer, that is, the public, enters or neglects the building field.

Living costs for the people as a whole are largely affected by the cost of building, not alone through rents, which reflect the cost of homes, or through the cost of manufactured articles which must bear the cost of the factories, the shops, and the means of storage and transportation, but also through the immense demand for construction materials which is the chief support of to-day's business activity, and the increase of income to the government and the individual through the improvements which an active industry produces.

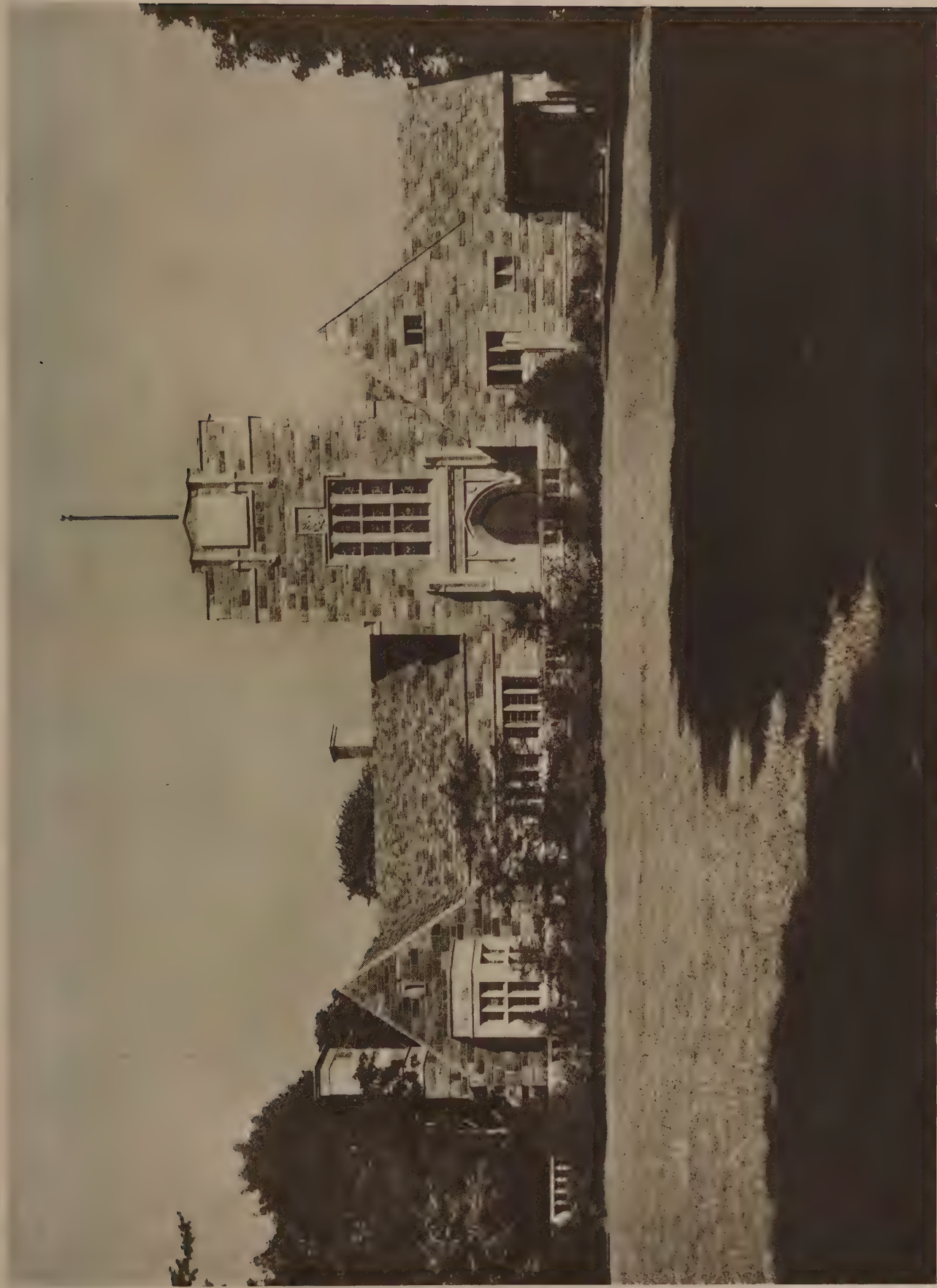
Success, that is prosperity in the industry, requires control and co-operation instead of the assertion of the claims of one group against the others, and better conditions for all cannot be secured merely through arrangements between labor and employer, which are much discussed but require as well an understanding on the part of the public, whose interest is most important, though often disregarded.

Power Show to Feature Lectures

THE Third National Exposition of Power and Mechanical Engineering will feature a series of lectures on recent developments in important phases of power-plant and mechanical engineering practice. The exposition will be held in the Grand Central Palace, New York, from December 1 through 6, 1924, and the lectures will be held in the assembly hall at times that will not conflict with the more formal papers presented at the annual meetings of The American Society of Mechanical Engineers and The American Society of Refrigerating Engineers which parallel the first four days of the exposition.

A large number of schools of mechanical engineering will send delegations of students and instructors to the exhibition and a series of lectures is planned to give the students, and any others who may be interested, a complete picture of recent developments of power-plant and mechanical engineering practice with the exposition as a background. The lectures will be supplemented with visits to the various exhibits. The topics selected are: The Boiler-Room, Steam Prime Movers, Oil and Gas Engines, Hydro-electric Power-Plant Equipment, Materials Handling, Modern Machine-Tool Developments, Mechanical Power Transmission, Mechanical Refrigeration, Heating, and Ventilating.





MERION WAR-TRIBUTE HOUSE, MERION, PA.

Walter T. Karcher and Livingston Smith, Architects.



SIDE ENTRANCE TO LEGION ROOM.



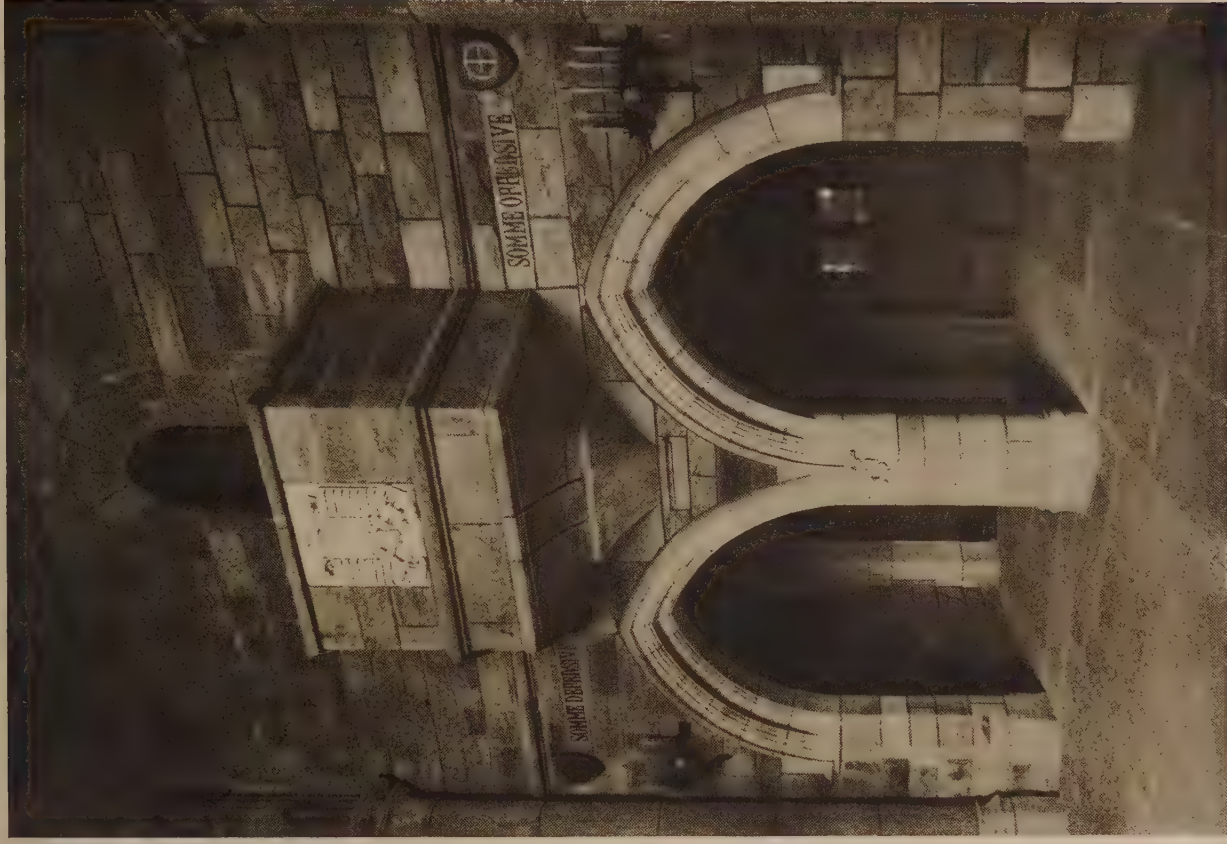
ARCHES IN MEMORIAL HALL.

MERION WAR-TRIBUTE HOUSE, MERION, PA.
Walter T. Karcher and Livingston Smith, Architects.



TERRACE ENTRANCE.

MERION WAR-TRIBUTE HOUSE, MERION, PA.

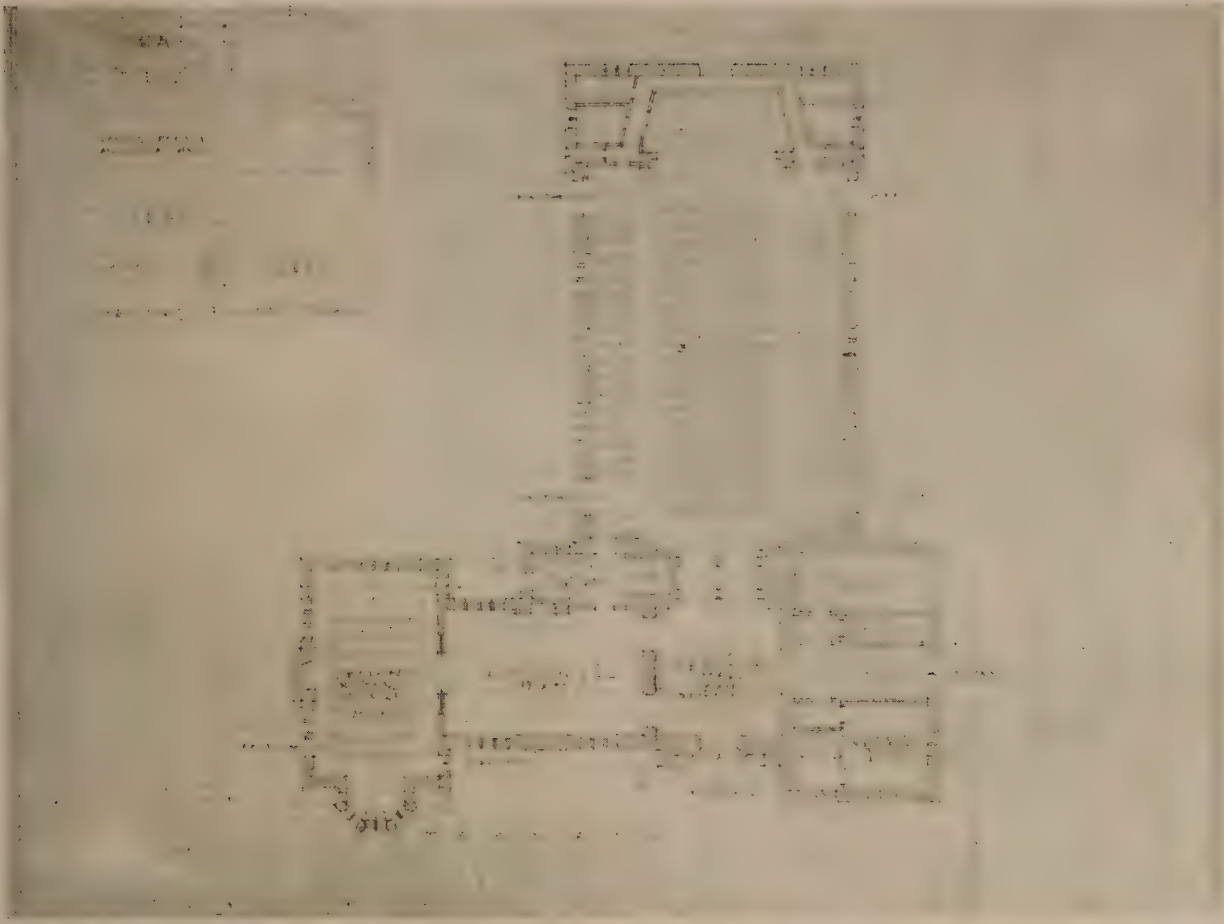


MEMORIAL HALL.

Walter T. Karcher and Livingston Smith, Architects.



APPROACH TO SERVICE ENTRANCE.



FIRST-FLOOR PLAN.

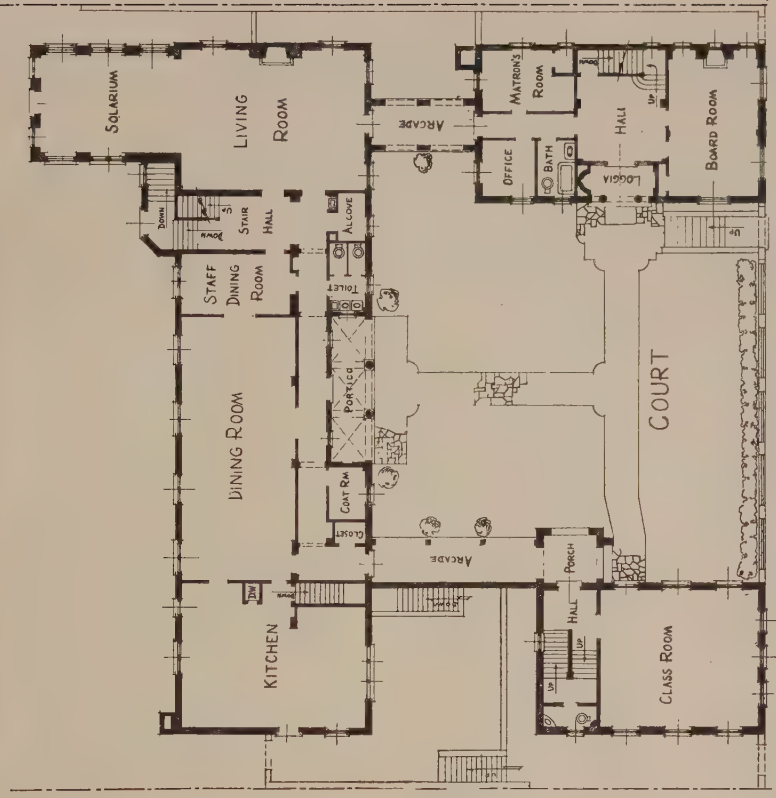
MERION WAR-TRIBUTE HOUSE, MERION, PA.

Walter T. Karcher and Livingston Smith, Architects.



GROUP OF BUILDINGS, BROOKLYN TRAINING SCHOOL AND HOME FOR YOUNG GIRLS.

Ludlow & Peabody, Architects.



DETAILS,

GROUP OF BUILDINGS, BROOKLYN TRAINING SCHOOL AND HOME FOR YOUNG GIRLS.

FIRST-FLOOR PLAN.

Ludlow & Peabody, Architects.



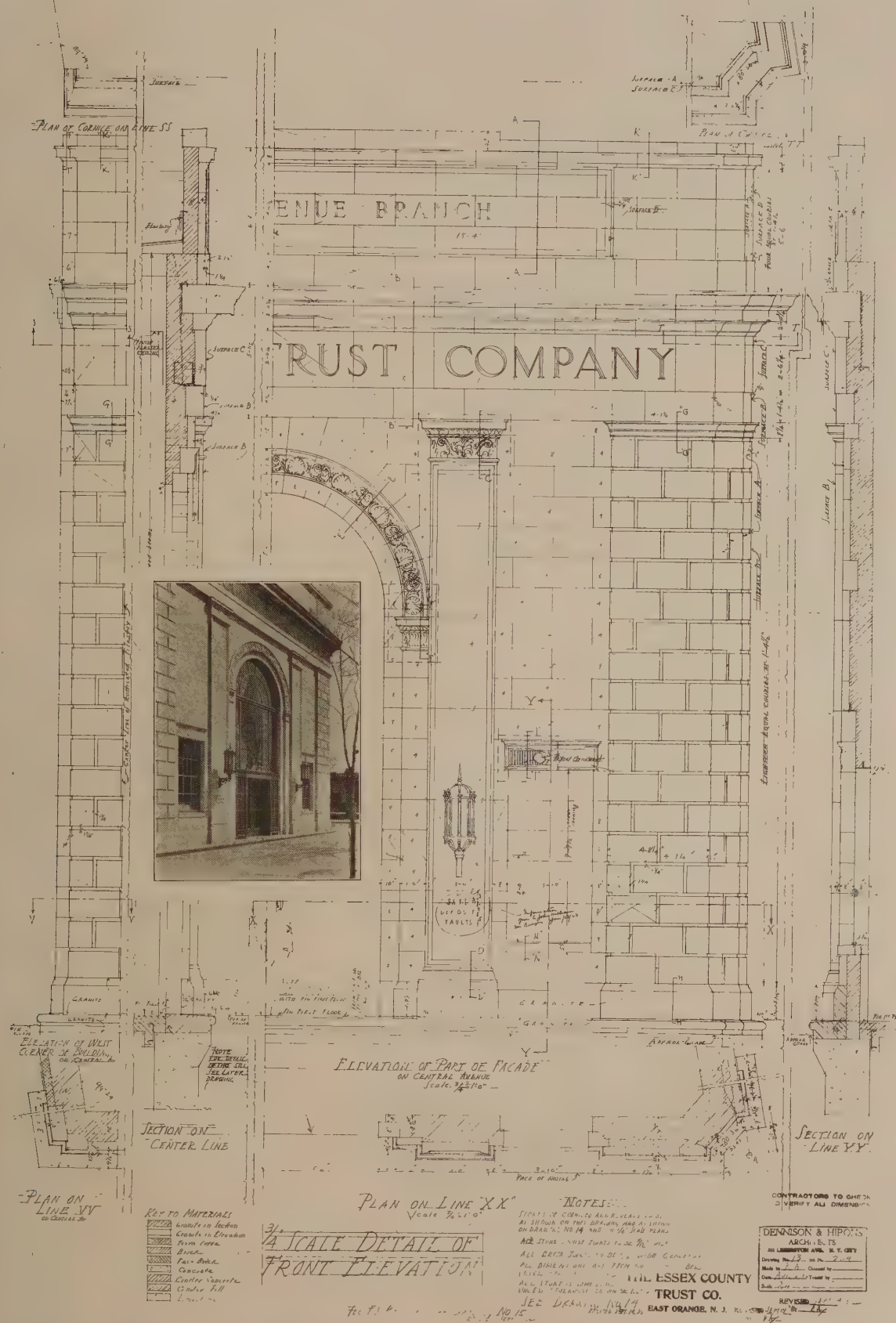
ESSEX COUNTY TRUST CO., EAST ORANGE, N. J.

Dennison & Hiron, Architects.



BANKING-ROOM, ESSEX COUNTY TRUST CO., EAST ORANGE, N. J.

Dennison & Hirons, Architects.



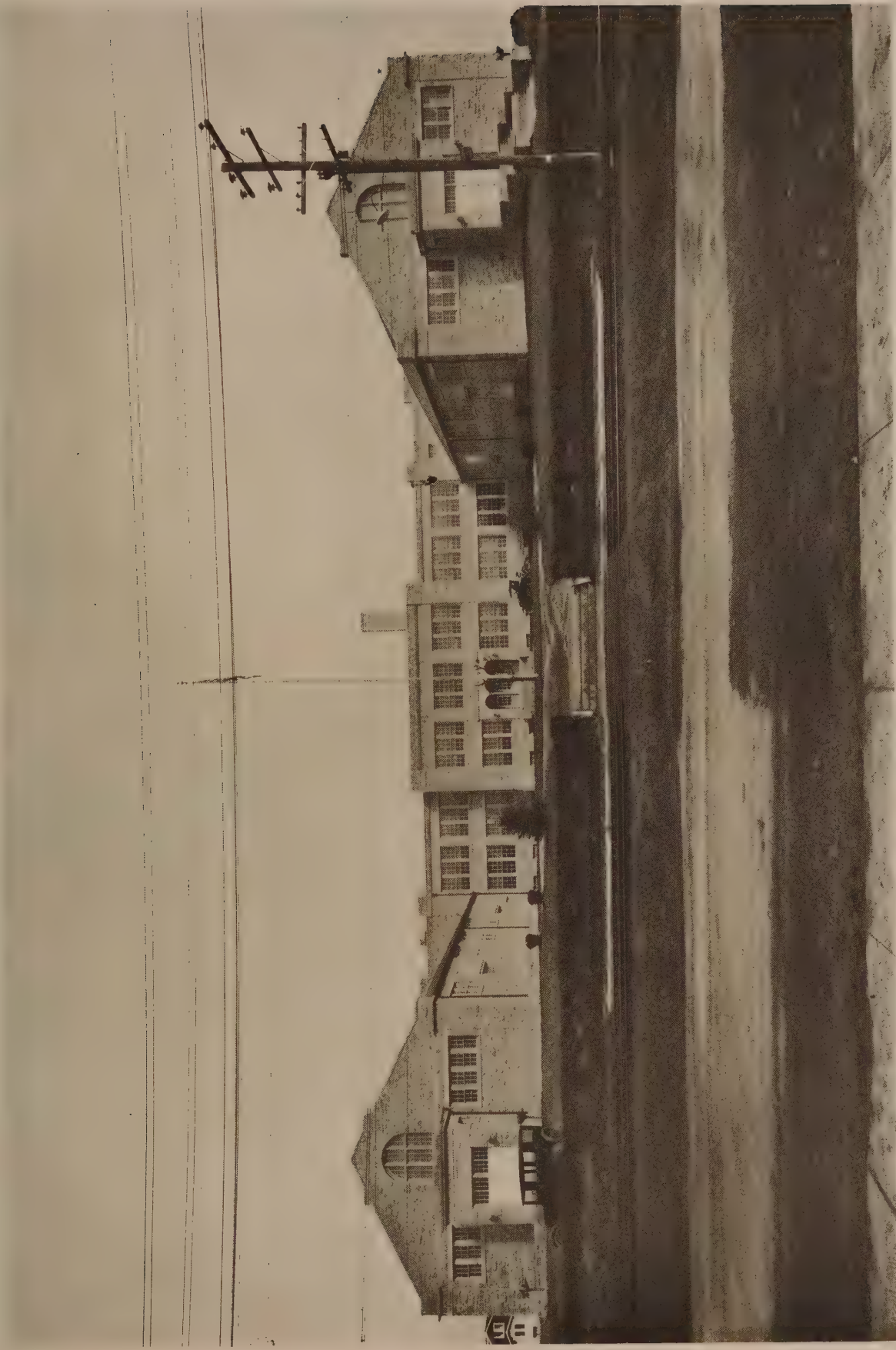
SCALE DETAIL, FRONT ELEVATION, ESSEX COUNTY TRUST CO., EAST ORANGE, N. J.

Dennison & Hirons, Architects.

DECEMBER, 1924.

ARCHITECTURE

PLATE CLXXXVI.



HIGH SCHOOL, HAVERFORD TOWNSHIP, PA.

Boyd, Abel & Gugert, Architects.



MAIN ENTRANCE VESTIBULE.



BOYS' ENTRANCE.



DETAIL IN CORRIDOR.



ENTRANCE TO GYMNASIUM.

HIGH SCHOOL, HAVERFORD TOWNSHIP, PA.

Boyd, Abel & Gugert, Architects.



THOUSAND ISLANDS COUNTRY CLUB, ALEXANDRIA BAY, N. Y.

A. Raymond Ellis, Architect.

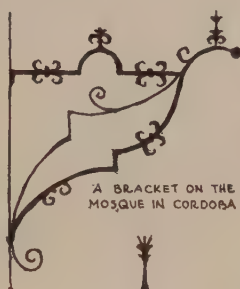


THOUSAND ISLANDS COUNTRY CLUB, ALEXANDRIA BAY, N. Y.

A. Raymond Ellis, Architect.



FROM THE HOSPITAL
SANTA CRUZ - TOLEDO.



A BRACKET ON THE
MOSQUE IN CORDOBA



FROM A HOUSE IN TOLEDO



FROM A HOUSE IN RONDA



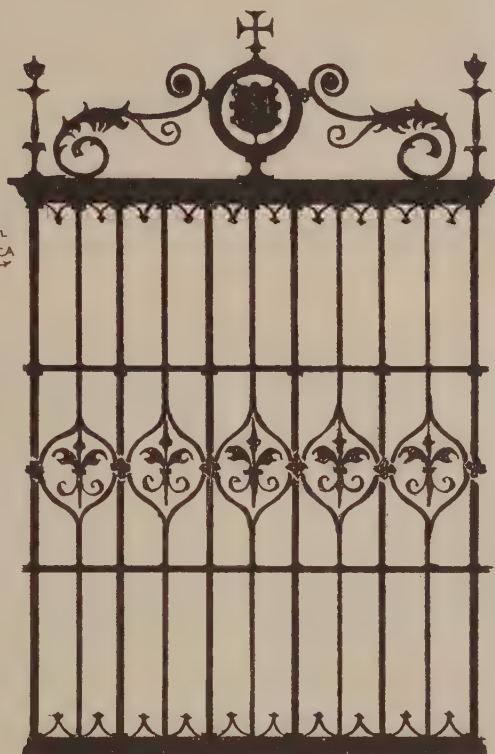
FROM THE COLEGIO DEL ARZOBISPO - SALAMANCA



FROM THE PUERTA DEL
CORRAL DE DON DIEGO
TOLEDO.



FROM THE COLEGIO DEL
ARZOBISPO - SALAMANCA



FROM THE PALACIO
VIEJO - AVILA

FROM A HOUSE IN AVILA



FROM THE CHURCH OF
SANTIAGO DEL ARRABAL
TOLEDO



✦ DETAILS • OF ✦
SPANISH • WROUGHT • IRON
WINDOW • GRILLES

MEASURED AND DRAWN BY SAMUEL CHAMBERLAIN



FROM LA VERA CRUZ
SALAMANCA



HOWARD STREET FAÇADE.



THE COURT.

AQUILA COURT BUILDING, OMAHA, NEB.

Holabird & Roche, Architects.



THE TWO BUILDINGS FORMING COURT.



DETAIL IN COURT.

AQUILA COURT BUILDING, OMAHA, NEB.

Holabird & Roche, Architects.

Aquila Court Building, Omaha, Nebraska

Holabird & Roche, Architects

IN practice as in theory, the idea that a commercial building must be drab and graceless has been relegated to the architectural dust-bin. Business no longer flaunts its "Bigness" in terms of bare utility, and beauty has left her Sabbatical shrine to invade the realm of caissons and steel girders. The idea to-day in the erection of public buildings, both large

and small, is convenience of layout plus excellence of design. Yet it often happens, especially in the erection of huge projects, that the design element is unavoidably limited because of necessary structural features or because of the forced economy which the great expense of building entails.

The design of the smaller shop and office building, therefore, offers unusual freedom to the architect. Here there is a real opportunity for the development of individuality. In the past, this type of structure has not

a fault of business structures. The second-story windows, moreover, are out to the floor level and set off by the use of ornamental iron balustrades. Besides adding interest to the exterior, this arrangement greatly increases the value of the second-floor rooms as shops, for the appearance of the room on the inside is thereby heightened. Nor are the slate mansards of purely ornamental nature. The centre one is used, the front part of it affording valuable rental space and the rear being utilized as an elevator-room.

Inside as well as out, the Georgian tradition is dominant. The lobby, with its travertine walls, vaulted ceiling, and "pineapple" doorways, extends back to the courtyard and opens a charming vista to the person entering from the street. Three elevators serve the building from this lobby, and a stairway ascends from it to the upper floors. The corridors throughout are unusually wide and spacious. Paneled walls, marble floors, and lighting fixtures flush with the ceilings all help to achieve a more finished effect than is usually found in an office building, an effect which is augmented by the nicely proportioned arches that open from the elevator lobby into the corridors.

The studio wing at the rear of the lot has been designed in harmony with the office section, although its type is more residential than commercial in character. Entering from the long courtyard through the arcade and entrance hall, one ascends to the second-floor hall and thence to the glass-enclosed loggia from which the studios open. Just inside the door of each apartment is a tiny kitchenette and breakfast nook. Beyond this is the big studio room, two stories in height, with a large open fireplace and lofty windows overlooking the courtyard. At one side of the room a stairway leads to the balcony located above the kitchenette, and on this balcony the bath and sleeping quarters are situated.

A gay little tearoom, with sturdy Spanish furniture, looking out onto the court, occupies a great deal of the space on the ground floor of the studio wing, the remainder of the space being assigned to a few shops and a necessary backing-in space.

Not the least important among the features of the building is the courtyard, paved with bluish flagstones and planted with tall poplars and bushy evergreens. At the east end a fountain feeds the pond and the long canal.

Cloisters run the length of the buildings on either side, and from them open the various shops, many of which have ceilings high enough to permit balconies, and thus afford the tenants an unusual opportunity for originality of treatment.

The courtyard is a colorful spot, moreover, for the brick arches which form the two long cloisters have white reveals; the store display windows are finished in peacock blue with orange striping; and the windows on the upper floors are protected by brilliant Italian awnings.

The treatment of the courtyard and, indeed, the basic idea of the group as a whole, is the outgrowth of an experiment which the owners, Messrs. Chester A. & Raymond C. Cook, conducted a year or so ago when they made extensive improvements on a group of buildings at the corner of Michigan Avenue and Ontario Street in Chicago. The novel scheme—shops, studios, courtyard—attracted much favorable comment.

The new building in Omaha is already proving itself a financial as well as an artistic asset to the owners as to the city.



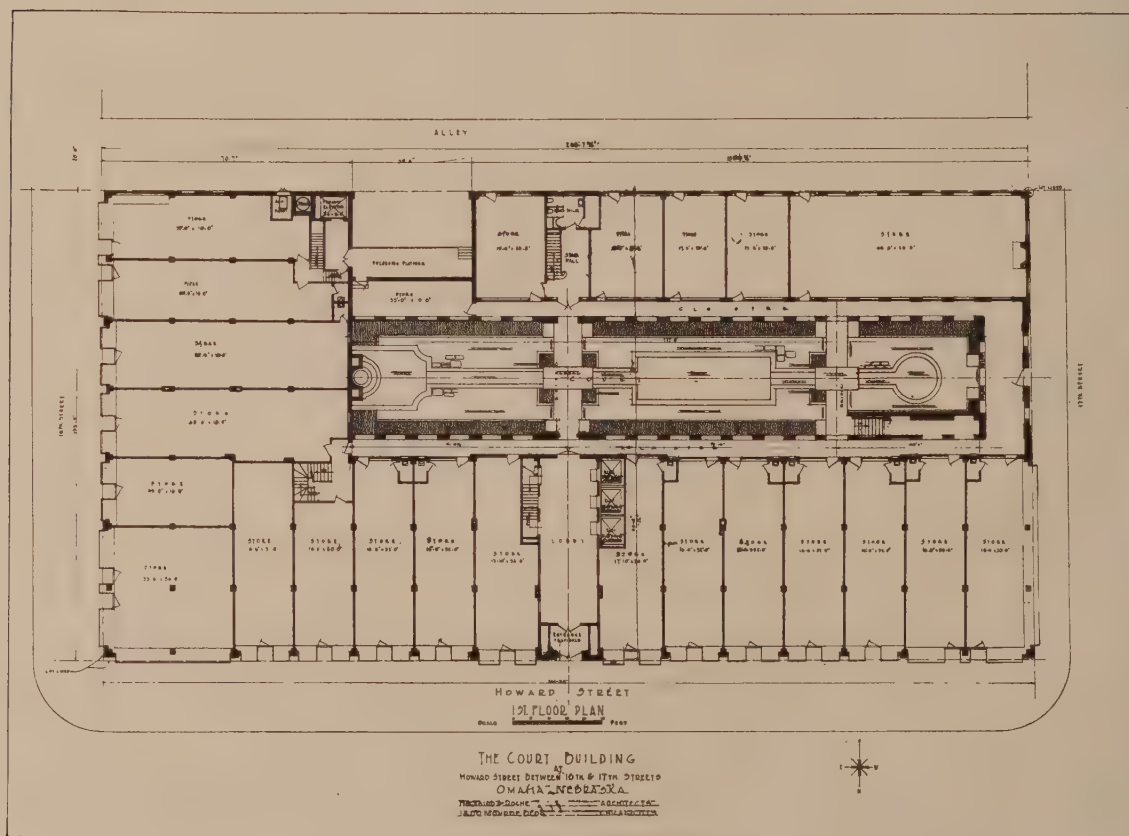
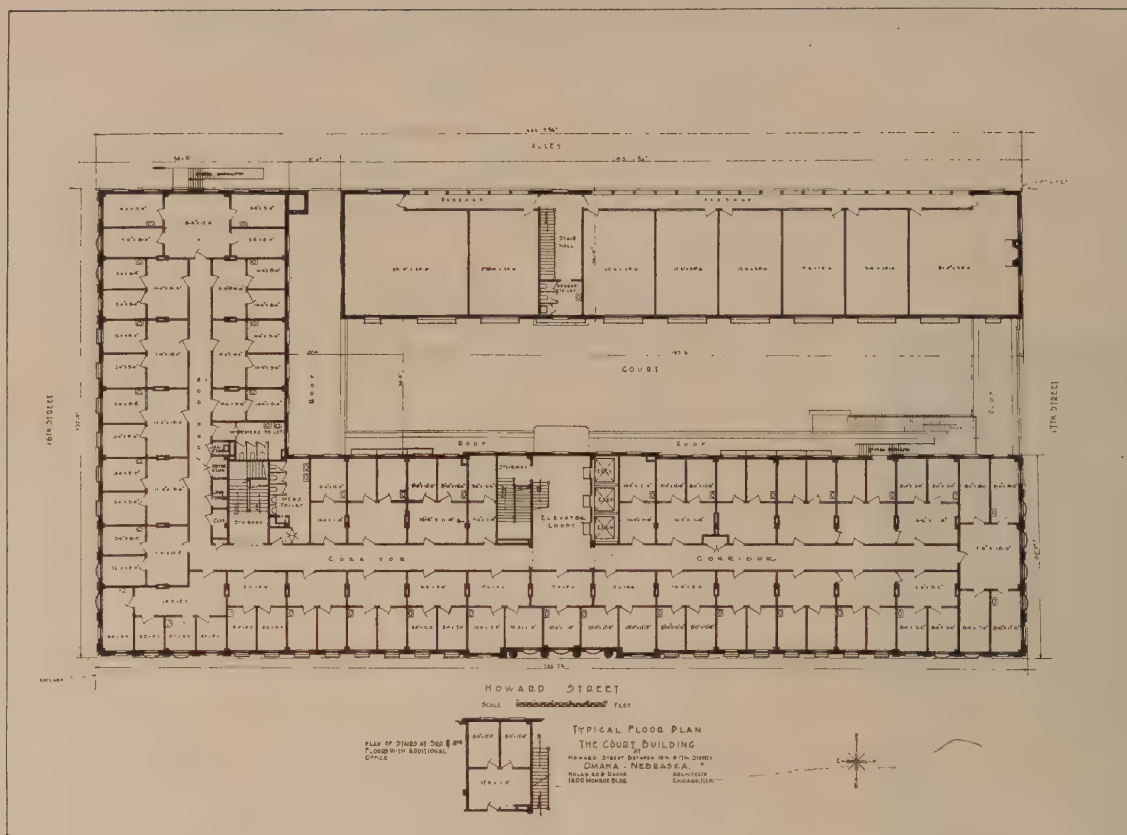
Street entrance to court-yard.

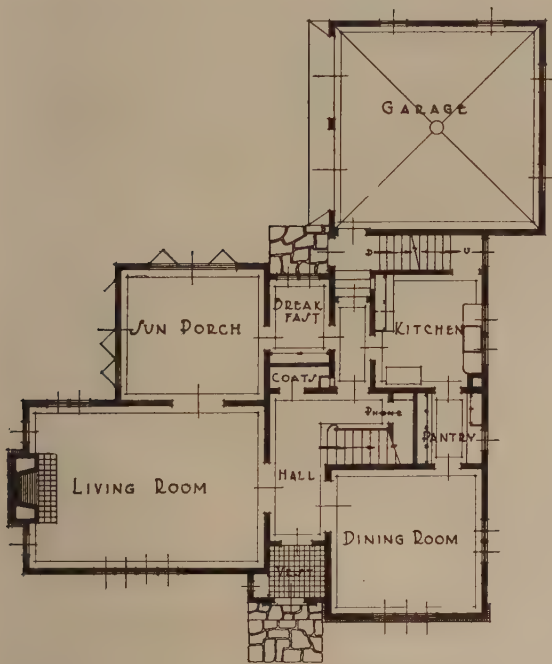
been common outside of New York and its environs. So real a need does it fill, however, and so enthusiastic has been its reception, that it is becoming popular in the western sections as well.

Such a one has recently been erected in Omaha, the Aquila Court Building, devoted exclusively to specialty shops, professional offices, and studios. Twenty years ago such a combination would have resulted in dreary apartments, a dim, close inner court, and barren store space. To-day the result is charming. Fronting an entire block on Howard Street and extending back to the alley on the Sixteenth Street side, is a formal Georgian office building, four stories in height. In the rear and facing a sunny, flagged courtyard, which opens on to Seventeenth Street, is a low, two-story wing that houses a few shops and a tearoom on the first floor and studios on the second. The two wings with their enclosed court form a group of unusual appeal.

Architecturally it adheres closely to the Georgian tradition and its charm lies in the formal simplicity and dignity of its execution. Buff-colored Bedford stone forms the exterior of the office structure on all three street frontages, but the studio wing and that portion of the office wing which fronts on the courtyard are faced with brick and lightened with stone trim and base course.

Dominating the long Howard Street Façade is a central pavilion, which marks the entrance to the office building, and the importance of this feature is emphasized by the use of engaged columns as against that of pilasters on the end pavilions. All windows throughout are double hung, and, what is most unusual in a structure of this character, they all have muntins. Their use gives scale to the building and does away with the "bald" appearance which is so common

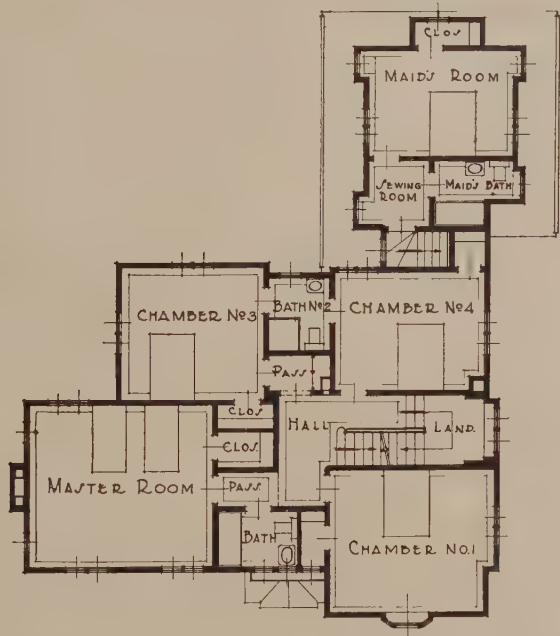




•FIRST FLOOR PLAN•

SCALE 1"=8'-0"

RESIDENCE FOR
MR. W. H. ALLEN - ROCHESTER, N.Y.
LEANDER M^CCORD - ARCHT.
ROCHESTER, N.Y.



•SECOND FLOOR PLAN•

SCALE 1"=8'-0"

RESIDENCE FOR
MR. W. H. ALLEN - ROCHESTER, N.Y.
LEANDER M^CCORD - ARCHT.
ROCHESTER, N.Y.

Essex County Trust Company, Central Avenue Branch, East Orange, N. J.

EAST ORANGE is one of the many examples which show the limited application of the old expression, "Westward the course of Empire takes its way." At least, the town, in spite of its being "East," is expanding rapidly in its residential and commercial aspects.

One of the evidences of this growth is the recently erected building which houses the Central Avenue Branch Office of the Essex County Trust Company. Located on a corner site, on a wide thoroughfare, the new building enjoys a setting which is given practically to buildings situated in small cities and towns. That is to say, it is located in the lot so as to have space for planting on three sides. The main façade of the building fronts on Central Avenue. The impression given by the well-kept grass plots and planting adds materially to the suggestion of generous planning, on the part of the owners and architects.

The building is executed in Indiana Limestone with a low granite base and granite step course. In a general way, the building is designed in the Classic Style of the Renaissance with high-arched windows, simple, strong cornice, and high attic. The corner piers on the main façade are rusticated. The carving and decoration are confined practically to the arched entrance and flanking windows on the Central Avenue façade; the balance of the architectural composition relying, so far as detail is concerned, upon refined mouldings and carefully studied proportions of the various motifs. The window sash and frames of the high-arched windows are of metal, painted a soft green. The entrance wrought iron grille on Central Avenue and the flanking wrought iron lanterns, are painted to match.

As one enters the building he finds, on either hand, the officers' space and customer's space, each separated from the central public space, by low rails. Beyond these spaces is the banking-screen surrounding the public space. At the rear is a wrought iron grille behind which is located the security vault.

The floor of the public space is of light gray green terrazzo with marble border. The banking-screen is of walnut with dark-green marble base. The walls of the banking-room are treated in imitation travertine, set with random blocks of different sizes and shapes. The ceiling of the bank-

ing-room is a plain plaster segmental vault with penetrations over the side wall opening. On the blank side wall of the banking-room, between the Clinton Street windows, are arched recessed panels; these panels are painted soft gray green, a color which harmonizes beautifully with the warm yellow-gray tones of the travertine and with the rich brown of the walnut screen. The color effect is extremely happy, the

banking-room giving one a pleasant feeling of a cheerful interior, a quality which is so often lacking even in banking rooms of excellent proportions and good design. The austere quality, so often felt in institutions of this type, is absent. The check desks are of walnut, as is also the miscellaneous furniture of the banking-room.

The working quarters of the bank are equipped with a thoroughly adequate and modern installation, including daylight hold-up stations, metal furniture and downward reflecting light system for the cages.

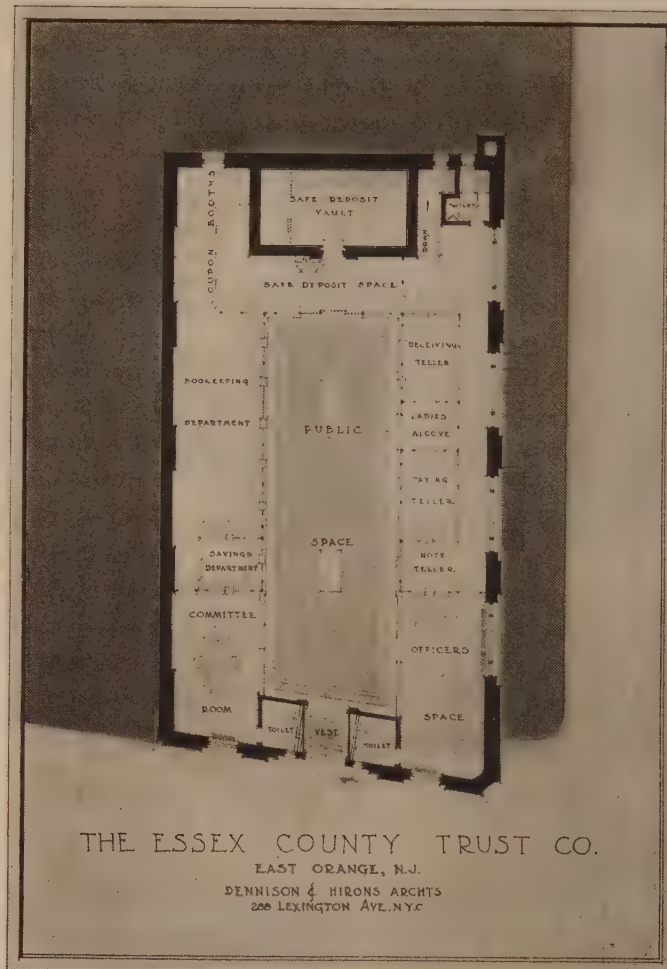
The security vault is most substantially constructed of reinforced concrete with steel lining and it is electrically protected throughout. The vault is proof against attack by the oxyacetylene torch, explosives, or other similar destructive agents. Adjacent to the security vault are five coupon booths affording excellent facility for customers of the safe deposit department.

The daytime lighting of the banking-room is furnished by six large arched windows, the strength of

the daylight being softened by light-gray hangings. The artificial lighting is supplied by a system of upward reflectors, which runs continuously around the top of the banking-screen. Upward reflectors are set also along the top of the security vault and of the entrance vestibule. Small toilet-rooms are installed near the entrance vestibule and the toilet-room for employees is placed in the rear of the banking-room adjacent to the security vault.

The cellar of the bank contains the boiler-room, locker-room, trunk storage space, trunk storage vault, and silver storage vault. A sidewalk lift on the Clinton Street side serves the boiler-room.

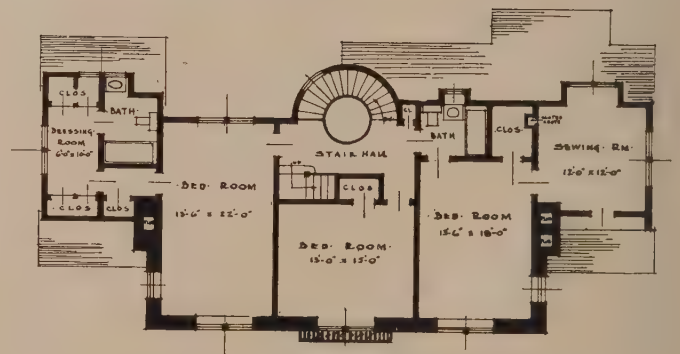
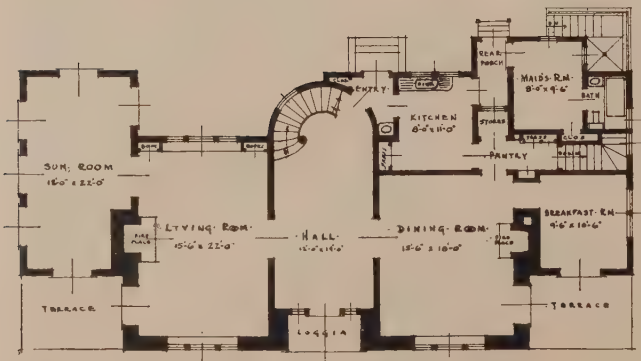
In construction, the building is thoroughly fireproof. Its equipment is modern; conveniently planned and its execution of the best quality. The design throughout is one of refinement and dignity.





RESIDENCE, MRS. A. W. BENNETT, RICHMOND, VA.

Duncan Lee, Architect.



RESIDENCE, MRS. A. W. BENNETT, RICHMOND, VA.

Duncan Lee, Architect.

The New High School Building for the School District of Haverford Township, Pennsylvania

Boyd, Abel & Gugert, Architects

THE building was laid out primarily as an educational building, but in designing the structure the architects took into consideration that it is to serve for the administration of the schools of the entire rapidly growing township, and that it must also be arranged for the general use of the community to which it belongs and with whose funds it is constructed.

The plan of the building is a somewhat flattened U, with the open end toward the front, forming a wide entrance forecourt, in which is placed a circular drive. On one side of this court is the auditorium, built with a permanent sloping floor, having a seating capacity of seven hundred and fifty people.

At the opposite side of the forecourt is the gymnasium. Both the auditorium and the gymnasium have separate entrance vestibules opening directly from the main street front, being especially so arranged for separate community use. They are directly connected with the class-room portion for convenient and constant use of the pupils during the school hours as required by the curriculum, but in such a way that they can be completely cut off when it seems desirable after school sessions. Both have emergency exit doors at each side of the large rooms opening onto roads, with modern panic bolts on the doors. All of the mechanical equipment is so arranged that either or both of these two wings may be lighted or heated separately and independently of the classroom portion.

The classroom or main school portion of the building forms the closed end of the U, stretching along the entire rear, including behind the auditorium and the gymnasium and beyond on either end, at which point are the children's entrances, one end for girls and the opposite end for boys.

The main entrance to the school portion is at the front from the fore-court. The approach is up a short flight of granite steps with a tile landing, through an open porch and then into a closed vestibule, both of which also have tiled floors and high tiled wainscoting, panelled and decorated. The vestibule opens directly into the lobby in the centre of the building, from which on one side is the entrance to the township school administration offices. At the opposite side of the lobby is the office of the principal of the high school building, which has its own separate waiting space.

The lobby has a cement floor with tile wainscoting and decorative tile niches on either side under an arch which leads to the main corridor. This corridor extends the full length of the building from the boys' to the girls' entrances, a distance of over three hundred feet, occurring on both the first and second floors. The corridors and stairs are wainscoted five feet high with a smooth-surfaced hard-glazed tile, which resists pencil marks, scratches, etc., and has a cement floor for ease of cleaning.

Communicating stairs are placed in the centre and at each end of the school portion, but only the end stairs give access to the basement.

The heating system is of the highest type of vapor installation with all rooms heated with fresh air drawn directly from the outside through a cold air room, the temperature of the air controlled by thermostats. Each room has also a vent for foul air leading through flues to the vent stacks over the roof and discharging into the outside. Each room also has direct radiation under the windows to take care of the cold air at each glass area.

The plumbing is of the most modern type, with quick-acting flushometer valves on each toilet, slate wash-basins in the mechanical departments, soapstone basins in the laboratories where acid is used, enamelled wash basins in all toilets, sanitary drinking fountains and a separate system of acid drainage from laboratories in acid-proof pipe.

The electric lighting is sufficient in extent for use of the building for night-school work if required, and for use of the gymnasium and auditorium by night. There is a complete system of intercommunicating telephones, reaching to all rooms, and also a master self-winding clock with secondary clocks in the various rooms, a programme clock to ring automatically the class and dismissal bells, separate emergency fire-gongs, exterior call bells, etc.

In the interior construction of the building the corridor is entirely surrounded by brick walls and heat and vent flues are in practically all cases of brick. Separating walls between classrooms are of brick or macite blocks. The auditorium and gymnasium are separated from the school portion by heavy brick walls, so that throughout the building all precautions have been taken to guard against fire and panic. In addition, the entire first floor construction and all corridors throughout are of reinforced concrete, and the entire basement and all toilet rooms have a cement floor drained to floor drains for ease of cleaning.

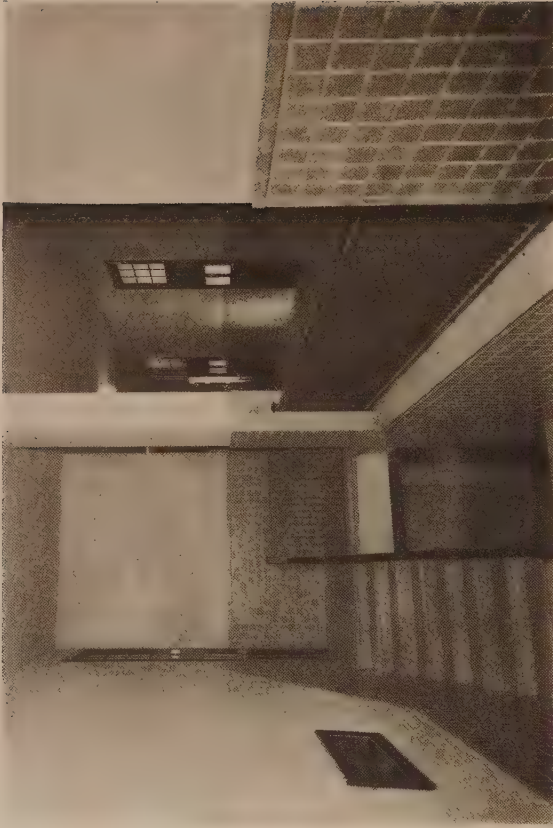
The auditorium and gymnasium are only one story in height, balancing each other at either side of the forecourt. The former is treated on the inside with a sand-finished plaster, with plastered pilasters with tile caps. The proscenium arch to the stage is also treated with a tile decorative border, forming with the pilaster caps and the blue stage curtain the only color in the room. The woodwork is light gray in color, matching the seats.

The gymnasium has the walls lined their full height with a light buff-colored brick with close joints, and a minimum of woodwork at the windows and other openings. The ceiling is open, with the iron trusses exposed so that gymnasium equipment may be attached to them. The entire exposed sheathing of the roof and the little woodwork along the walls are stained a soft dark brown. The same dark-brown tone is carried out throughout the school portion, with light-toned sand-finished plastered walls, except in the basement, where the woodwork is painted gray. All classrooms have slate sills, so that flower-pots and apparatus may be placed thereon without danger of spoiling the material, and so that they may be easily washed off and cleaned, requiring no upkeep.

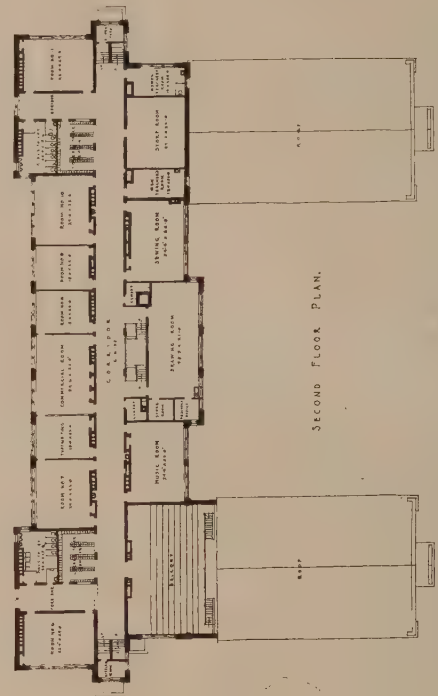
All W. C. stalls in the toilets and all urinals and all shower stalls and enclosures are also of black Pennsylvania slate in order to minimize expense in upkeep and offer more resistance to deterioration as well as to any danger of fire.

The entire exterior of the building is finished with a light gray-buff granite stone from a local quarry, with Indiana limestone columns and treatment at the main entrances and at the heads and sills of windows and at the parapet wall along the front of the main school portion. All exterior woodwork is finished a light gray in color, to tone with the limestone.

The entire building is so designed that while it is used at present only as a senior high school, it can be readily accommodated to the curriculum of a junior-senior high school.

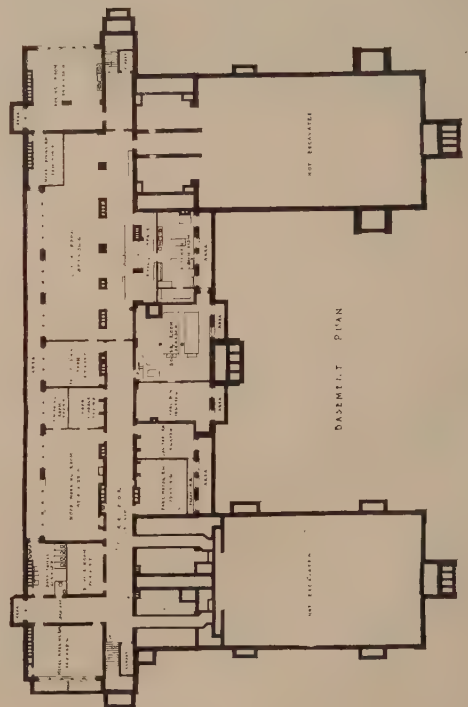


SHOWING STAIR AND HALL TREATMENT IN TILE.



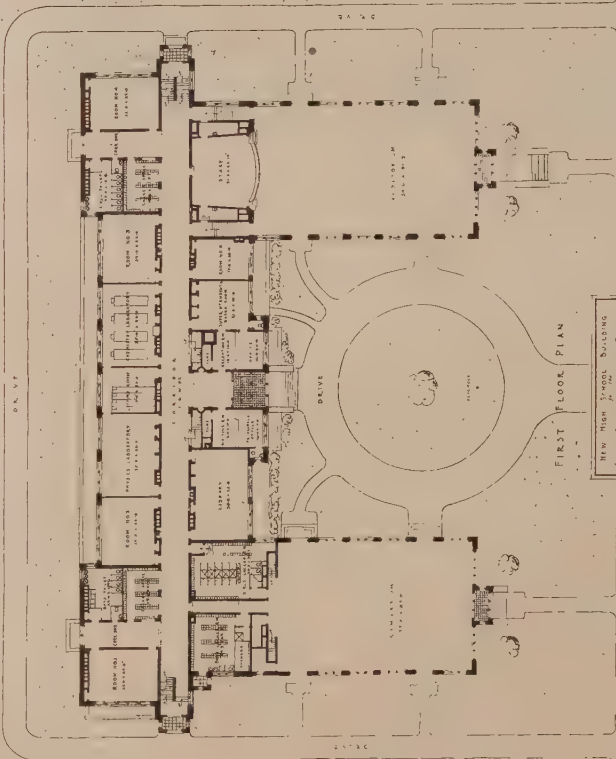
SECOND FLOOR PLAN.

NEW HIGH SCHOOL BUILDING
Second Floor Plan
Showing the arrangement of the second floor of the building. The plan is drawn to scale and shows the location of all rooms and corridors. The building is located at 1234 Main Street, New York City.



BASEMENT PLAN.

NEW HIGH SCHOOL BUILDING
Basement Plan
Showing the arrangement of the basement of the building. The plan is drawn to scale and shows the location of all rooms and corridors. The building is located at 1234 Main Street, New York City.



FIRST FLOOR PLAN.

NEW HIGH SCHOOL BUILDING
First Floor Plan
Showing the arrangement of the first floor of the building. The plan is drawn to scale and shows the location of all rooms and corridors. The building is located at 1234 Main Street, New York City.

Architectural Glimpses in Old Dalmatia

By Folger Johnson

SECOND ARTICLE

Round About Ragusa

RAGUSA is easily the most interesting of the Dalmatian cities and, one may add, the most beautiful as well. It is built on a peninsula that extends into the sea, so detached as to be almost an island. Its cream-white ramparts rise from the water and climb the hillside back of the town, their line broken by frequent watch-towers. On the land



Ragusa.

side the old moat has been converted into pleasant walks shaded by mulberry and plane trees.

This is the one city of Dalmatia that does not have the Lion of St. Mark over its gates, for Ragusa was an independent ally of Venice and not a vassal, so she placed her own patron saint, Biago, above her walls. But in spirit Ragusa was largely an Italian city, and was not loath to send to Venice for the paintings of Titian, nor to Florence and Naples for her architects.

This brave little republic was unique in history, for, though so small a kingdom, it held its own through centuries in a world where force was the only law, it negotiated treaties with all the great powers, and built up such a commerce on the seas that the Ragusan name for ship has given the word "argosy" to our language. It was Napoleon who deprived Ragusa of independence; then Austria followed. It is now united with the other cities of lower Dalmatia under the Serbian flag.

Saint Biago was not always patron saint of the city, but won this honor from Saint Sergius in the tenth century. The Venetians were plotting an attack on the unsuspecting Ragusans, but Saint Biago thoughtfully appeared in a dream to a returning pilgrim sleeping within the walls, and told him to warn the citizens of their danger. As this timely warning saved Ragusa the people made Biago their patron saint from that time forth. He stands over the two main gates of the city, holding up one hand in blessing, and in the other a model of the first cathedral. This church was said to have been founded by Richard Cœur de Lion at the same time that he built the monastery of Lacroma, and it must have been one of the finest Romanesque build-

ings in Dalmatia; but, unfortunately, it was destroyed by the great earthquake of 1667.

Ragusa has only one wide street, which was once a canal after the fashion of those of Venice but was filled in after the earthquake and became the forum. Leading off to north and south are narrow streets, interesting with fine old doorways and overhanging stone balconies shaded with trailing vines. Over the head of the doorway the family arms were usually carved in stone. It was the fashion in old Ragusa for each noble to have a small separate chapel for his household. Sometimes these chapels were in the garden but were as frequently placed on the narrow street, these miniature churches forming a pleasing contrast to the otherwise high buildings.

The Ragusan architect, being under the influence of Byzantium, Venice, and Rome, was employed with much the same problem as confronts the American architect to-day. He had the choice of appropriating the styles in their purity as is sometimes attempted in America, or of using them at random according to his tastes. He chose the latter procedure, and it is this departure from the cold severity of a style that gave Ragusan architecture a warmth and vitality that make it live for us to-day.

This indifference to the conventional styles is characteristic of the architecture of Ragusa. The Romanesque, the Byzantine, the Gothic, and the Renaissance have all been happily brought together in the same composition, giving a surprisingly harmonious whole. This success architecturally was largely secured by a careful adherence to a uniform scale, along with a strict regard for the relation of window openings and wall divisions.

This mingling of styles is exemplified in the façades of the two principal buildings of the city: the Old Mint and the Rector's Palace. In the façade of the first, one feels distinctly the Renaissance in the horizontal divisions of its walls, in the windows of the uppermost story, and in its general effect. The loggia, while Florentine in conception, is



Courtyard, Rector's Palace



Gateway in Ramparts.

reminiscent of the Romanesque and Byzantine in its proportions, in its mouldings, and in the foliage of its capitals, while the windows of the second story are decidedly Venetian Gothic. The charm of the whole, which is so distinctly Ragusan, is achieved by fusing into the fifteenth century form details happily chosen from the earlier styles.

The same holds true in the façade of the Rector's Palace, for here the loggia, though Renaissance in conception, is Romanesque in its proportions and in the treatment of the ornament. Its capitals are liberally treated, varying from the free foliage and round mouldings of the Gothic to the cupids, coves, and cymas of the Renaissance. The mouldings of the arches and the foliated belt course belong to the Gothic windows of the second story. The whole is crowned by a Renaissance cornice richly ornamental, and so in effect brought into keeping with the Gothic forms below. The subordination of all parts to the crowning glory of the loggia, an inviting portico of more than half the height of the façade, gives to this building a beauty seldom achieved, and renders it a worthy monument to the noble little republic whose officials it housed for so many centuries.

This building, the chief pride of Ragusa, was designed by Onofrio de la Cava, a Neapolitan architect. It was later partially destroyed by fire and the rebuilding was intrusted to Michelozzo, the architect of the Palazzo Riccardi in Florence. He was assisted by Giorgio Orsini, architect and sculptor, who was largely responsible for the cathedral of Sebenico. This beautiful palace faces the Piazza of the city, time having toned its white stone walls to the color of old ivory, adding to its intrinsic charm.

It is a mooted question as to how much of the work is Onofrio's, and how much Michelozzo's; but it is established that the fine Æsculapius capital of the loggia was Onofrio's,

as it was described by a fifteenth century writer before the fire. This writer mentions that the divinity of healing was represented in the capital because Æsculapius was a native of Ragusa. It is a comment upon the excellent construction of the building that it survived the earthquake of 1667, which destroyed the cathedral and so many private residences.

Onofrio's name is perpetuated in the round fountain built in 1437 which stands just inside the Porta Pille. It is in reality a small reservoir roofed to keep the water cool, and the architect's problem was to enclose and adorn it. He built a circular wall, roofing it with a dome of stone. To beautify it, he frankly added a series of columns about the drum, making no effort to use them in a structural way, but merely as applied decoration. His frankness is further seen in placing the ornament, usually expected at the top of such a composition, at the base of the panels between the columns. This was done in order to have them serve as both ornament and spout at the same time. The disciple of functional architecture may decry a purely decorative use of columns, but any lover of beauty looking upon this fountain must perforce recognize qualities that thrill and please abundantly.

The small fountain near the Mint built in 1438 has also been attributed to Onofrio. It has a charming octagonal basin with panels of putti reliefs. In this, the departure from the expected is in the stem, where motives decidedly Byzantine are used.

One of the pleasant walks of the city is to follow the street which leads out of the main square and takes one under the gate of Saint Biago along the cliffs. There, overlooking the sea, one finds the little convent of Saint Giacomo, now a hospital. Perhaps the most simple and primitive of



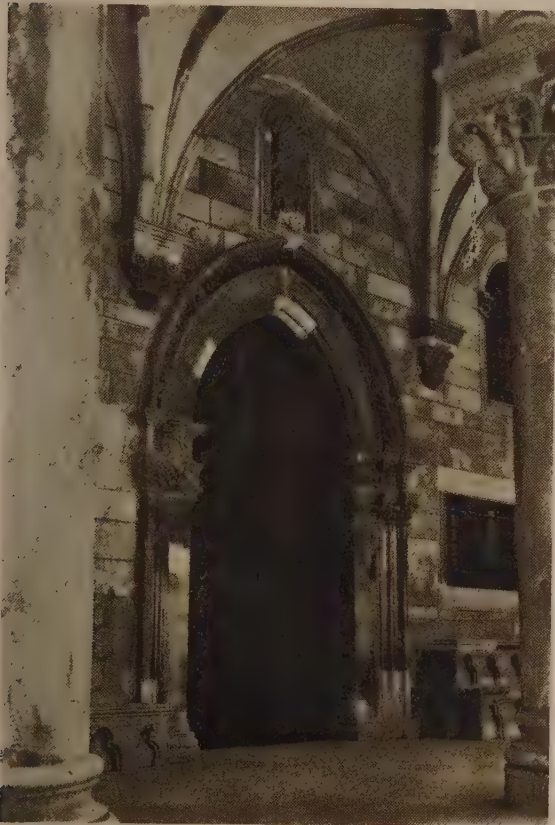
Fountain by Onofrio.



Gothic Portal, Franciscan Church.



Doorway, Dominican Church.



Entrance, Rector's Palace.



A Fine Old Doorway.

all Dalmatian monasteries, yet its pleasing roof lines seen through the trees and its airy situation combine to make it truly charming.

Two of the most delightful spots in Ragusa are the cloisters of the Franciscan and Dominican monks. Here one may escape from the heat of the sun and spend a restful hour remote from the noise and clatter of the street. From the covered arcades one looks out into the sunlit gardens, where birds flutter about amid the orange, fig, and oleander trees.

The Franciscan monastery is the older of the two. They claim its pharmacy, founded in 1307, is the third oldest in Europe. Its herbs, compounded by the monks, are held in old blue and white pottery jars that give a curious Old World look to the otherwise modern chemist shop. The pharmacy is still the leading drug-store of the town, and there are always a few purchasers in the little shop near the cloister entrance.

The cloister, which dates from the early fourteenth century, is Gothic in spirit, though much of the detail is Romanesque. It is almost square in plan and consists of an arcade of doubled shafts surmounted by a high wall and balustrade. The shafts are octagonal and doubled in the width of the wall. Occasionally they were knotted together after the fashion of the Commaccines. The arched opening is high and narrow and the arched heads are bare of mouldings. In order to relieve the weight of masonry over the slender shafts the walls were pierced with large, round windows. The capitals of the columns are of great variety and interest. They are of stone, representing conventionalized birds, beasts, and foliage, executed with great freedom and exceptional skill.

The balustrade is in spirit a repetition of the arcade below, the little columns being doubled, however, in the length, rather than in the width of the wall. This was the last part of the cloister to be finished, and the detail shows the appearance of Renaissance forms.

In this garden, where the green massed foliage contrasts with the gray of the walls, a little stone walk flanked with seats leads to the fountain of Saint Francis. The figure of the saint rises above the surrounding shrubbery and is so placed as each day to get the first and last rays of sunlight.

In the early morning and late evening, when the little statue stands out from the surrounding dark of garden and arcade, it has the effect of being strangely illuminated.

But it is in the mid-afternoon, when long warm shadows fall across the stone flags and the fragrance of roses and orange-blossoms is wafted from the garden, that one sees the cloister at its best. It is then that it presents its most human and friendly aspect, a charm strengthened by the occasional arrival of a group of brown-robed monks to shell peas or draw water for dinner, their soft-voiced conversation mingling with the hum of the garden bees.

The doorway of the adjoining church is an interesting Gothic portal. Above it is a *Pieta* in sculptured relief, of fine feeling and workmanship.

The Dominican cloister dates from the latter part of the fourteenth century and is decidedly Venetian. Its walls consist of piers and round-arched openings filled with Gothic shafts, mouldings, and trefoils, composing a tripartite motive so frequently employed in Venice. The arched heads reach almost to the richly carved belt mould which, bearing a close relationship to the balustrade above, forms the crowning member of the wall. In the stone balustrades the architect has secured interest by varying the design in each panel.

The cloister is somewhat larger than the Franciscan, and happily so, because the architectural motives are of a larger scale and require about them more space and atmosphere. It is best viewed across the garden, to which the Renaissance well-head in the centre contributes the final note of beauty. When the white-gowned monks are pacing between the trees or are grouped about the old well, the whole has the dramatic

effect of some stage-setting, and one almost feels that the curtain will drop and the scene will vanish.

In fact, Ragusa has the effect of a stage picture with its blue sea, white walls, old palaces, and moving throngs of brightly garbed peasants wearing the embroidered costumes of Bosnia, Herzegovina, and the Balkans. And when one adds that each gay little café prides itself upon its orchestra, that one may sip an *apéritif*, listen to Dvůřák, and contemplate rich and mellowed architecture at the same time, it is seen that Ragusa is in truth a place to be recommended to lovers of art and beauty.



Campanile of Santa Maria, Zara.





Club house and courts.

The Thousand Islands Country Club

A. Raymond Ellis, Architect

THE country club of to-day is quite different from that required several years ago. To-day it provides for not only physical recreation, but for social intercourse, and is usually carefully planned to conform to the needs of the community which it serves. Some clubs are for all-the-year use, while others are only for summer use; but either must be planned, designed, and constructed so that its cost and upkeep will not be a burden on its members and the committee charged with the responsibility of managing it, who are usually members serving without compensation. Therefore its income must be carefully worked out. In this respect it is similar to an inn or the small hotel. The country club serving its members in the immediate neighborhood is familiar to all and is of the simplest kind, with perhaps a few rooms for bachelors and transient guests of members, the average use of which is quite constant.

The resort club is different, in as much as it is operated but a few months in the course of the year and therefore must be carefully planned and managed in order not to become a financial burden and still provide for its guests the same comforts and conveniences that they are accustomed to in their home clubs. The Thousand Islands Country Club is perhaps different from any other in the country. Its location is unique, as it combines both seashore and countryside, and therefore appeals to a larger number of people.

Every one is familiar with the beautiful St. Lawrence River and the Thousand Islands in the vicinity of Alexandria Bay, N. Y., with its sparkling waterways and beautiful scenery. The atmosphere is clear and invigorating, and adds a great deal to the enjoyment of the many sports which are carried on there, which include sailing, swimming, yachting, fishing, motor-boating, golf, tennis, polo, horse-back riding, hydroplaning, dancing. These sports alone make the club requirements different from the ordinary country club, for the members are constantly taking part in some sporting activity outside the club house during the day. In the evening we have the complication of the club and family life, and the influx of cottage members and guests for dinner parties. Some of these wish to dance or play bridge, while some prefer to rest after their arduous day and seek quietness.

After carefully considering these requirements which must be taken care of the architect chose the California patio as the motif for the new club house. It was built by the members, nearly all of whom were subscribers, and cost in the neighborhood of \$200,000, outside of the landscape work and dock building. Around the patio are built the main rooms—the living-room, dining-room, card-room overlooking the river, writing-room, and a ladies' room—so that all the club activity could be centered and expand onto the terraces and patio. Isolated at one end are the kitchen and service wing. At the other, a wing shut off from the main part, with two separate entrances, is filled with comfortable rooms, each with a large closet big enough for trunks and bags to be stored in them, and private bath. Some of these are single rooms and some are double, while some are in suites with little balconies.

Over the main part of the building are placed two stories of rooms, with balconies. Some of these are perhaps noisy at times—some of them had to be—but members can exercise a certain choice in their selection of rooms. An examination of the plan will show that even the rooms nearest the centre of the club activities will not be greatly disturbed.

The men's café is isolated, with a separate entrance at the rear and an entrance from the lounge.

Many a golfer prefers, when hot and mussy, to enter locker-rooms without going through the main club, so the lockers and showers have been placed in a separate building, for which the old club house was successfully utilized. In this building are also placed the barber's, hairdresser's, and manicurist's establishments. If these features had been incorporated in the main building it should have been added as a wing north of the café and separated by an arched passageway on the ground floor. A locker-room should be above ground and always on the first floor, with high ceilings, good light, with plenty of comfortable benches, with the showers nearby. There should be a fireplace and good attendants.

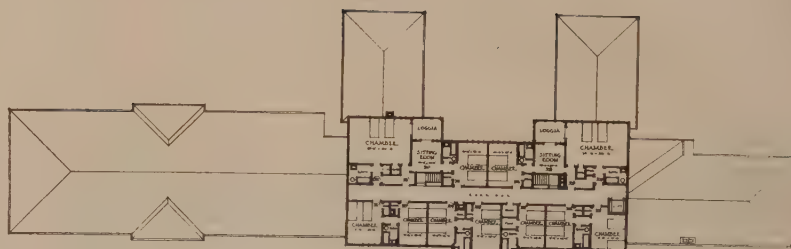
The club was organized by the late George C. Boldt about ten or twelve years ago, and has only recently been incorporated. It is located on Wellesley Island, which is twelve miles long and three miles wide, opposite Alexandria

Bay, and is reached only by private launch or club launch. There are some beautiful residences on this island, as well as two polo fields, an eighteen-hole golf course, tennis-courts, a farm, and numerous bridle paths through wooded sections. The Yacht Club is located on a nearby island, and near by are little islands on which are the attractive summer homes of members.

The club house fills a much-needed want in that it enables friends and guests in greater number to attend and take part in the invitation golf, tennis, and polo tournaments during the summer season. It has been customary in the past to have the island residents entertain their friends and visiting teams rather than allowing them to remain at the hotels because of the accommodations. The club in its new form of incorporation, with its subscribing membership, will also have life, resident, non-resident, and associate members, thus enabling many to rejoin the Yacht and Country Clubs, and have attractive accommodations for themselves and their families.

The season at the Thousand Islands is longer than that of most resorts, being from June 1 to September 15, due to the many varied sports and the fact that many of the members open their houses early for the season.

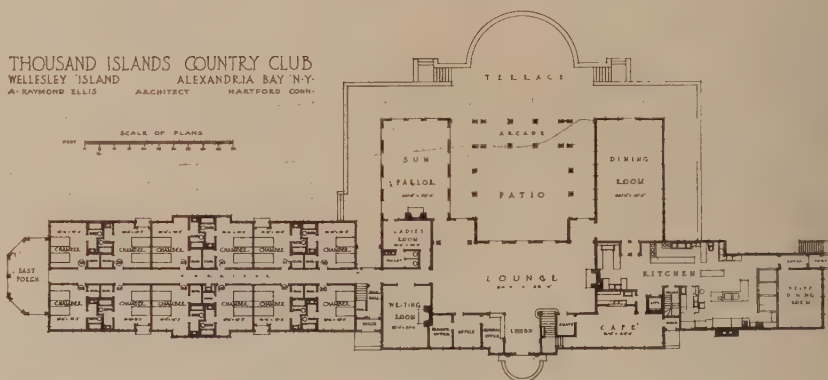
There are many members who stay at the club all season with their families, many of the younger men and bachelors come for week-ends, and in general the club provides exceptional accommodations in a location that is ideal, both on account of its natural beauty and its privacy.



THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

THOUSAND ISLANDS COUNTRY CLUB
WELLESLEY ISLAND ALEXANDRIA BAY N.Y.
A. RAYMOND ELLIS ARCHITECT HARTFORD CONN.

Book Reviews

THE NATURE, PRACTICE, AND HISTORY OF ART. By H. VAN BUREN MAGONIGLE, Fellow of the American Institute of Architects, Associate of the National Academy of Design, etc. Illustrated. Charles Scribner's Sons, New York.

"In the arts is most of the beauty of the world and of life in the world; they are for all men even without the asking; subtract them and the world is a waterless desert."

But to make all men and all women realize this, in these times of changing ideals, of the prevalence of the materialistic and the obvious, is a task only for the enthusiast, for one who can bring to his writing the joy and inspiration that he has himself found in the pursuit of the arts. And yet mere enthusiasm without a foundation of sound scholarship and much knowledge has done marked harm to the very causes it would help. The man of affairs, the boy in school or college, is apt to think of enthusiasm over art in general as Bunthorne stuff, to call it in modern terms "bunk." Undefined beauty is the source of a deal of gush, of exclamation points and a large vocabulary of "words"—and the teacher of art has some task to make the subject really interesting. And it is made the harder by the lack of books that may be brief and yet adequate to make the story of art something better than a chronology or a guide-book with starred or full-face special titles. In his preface the author says that the head of one of our schools of design expressed the regret that "the future patrons of art in America, the young men and women in high school and college, were growing up in virtual ignorance of art as art, as a source of pleasure, as an influence upon life, or as an expression of life." Mr. Magonigle's book is really the result of this particular teacher's expression of the need for a book that might do its full part in helping our "future patrons of art" to an intelligent and sympathetic interest in what art has meant and done for the world. A labor of love it began, and all through the book you are conscious that here is one writing of an abstract subject, in terms of the concrete, beauty is made something more than a word; it is made to reveal itself and to make even him who skips realize something of its significance

and emotional appeal. Beginning with some "painted animals upon the rocky walls of a cave in Spain, thirty thousand years ago, art has been the eternal language, an expression of the creative impulse," and through the ages down to our own times, Mr. Magonigle, in terms that are inspiring and as illuminating as flashlights thrown on a dark sky, takes you on a journey through the great periods of art. Both architect and painter by training, he brings to his topic special technical qualifications, and in the chapters on "The Means of Expression in Architecture, Sculpture, and Painting," "The Technique of Architecture," "The Technique of Sculpture," "The Technique of Painting," "The Technique of Other Vehicles of Expression," he takes his readers into the studio and shows them how art is made manifest.

As an introduction to the study of art for the adult or the student, as a delightful book to read aloud in the family circle, as an inspiring reference for any library, we commend it without reserve. Passage after passage will dwell in your mind, and it will be a dull reader indeed who will not gather from these pages, with their many admirable illustrations, some of the "enthusiasm" with which the author began and has maintained to the last chapter.

LIBRARY BUILDINGS, NOTES, AND PLANS. By CHARLES HAWLEY. American Library Association, Chicago.

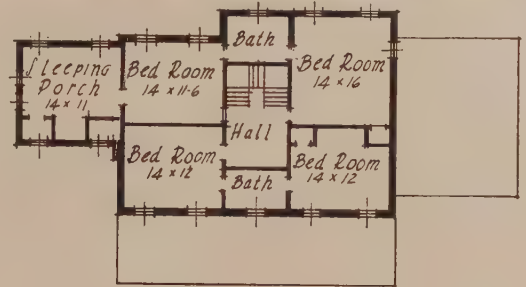
The small-town library and the branch libraries in our cities have been greatly improved in recent years, both from a point of design and in the arrangement of their service departments. In this volume are collected a number of attractive small library buildings from various parts of the country.

In the prefatory text are included "Basic Principles," "General Principles," "Location and Shape," "Type of Building," "Cost," "Capacity," "Floor Plans," "Furniture," "Arrangement and Equipment," "Windows and Lighting," "Walls," "Heating and Plumbing," "Shelving." It is a book of practical value for any architect.



• FIRST FLOOR •

HOUSE FOR UNION MORTGAGE CO., ROSLYN, LONG ISLAND.



• SECOND FLOOR •

August Viemeister, Architect.

Announcements

Lorenzo Hamilton (B.F.A. Yale, 1921) has been appointed an instructor in second year design and an assistant in sketching at the Department of Architecture, Yale School of Fine Arts. During 1921 and 1922 Mr. Hamilton made a tour of Italy, France, and England as holder of the Winchester Fellowship in Architecture from Yale. He will continue his practice of architecture with offices at 119 West Main Street, Meriden, Conn.

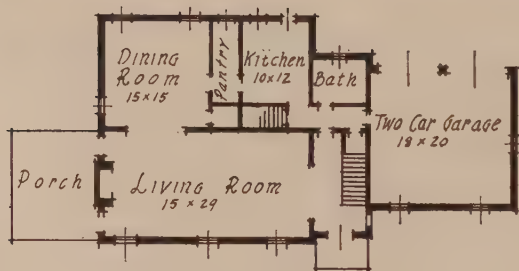
Thomas J. Collopy has opened an office for the practice of architecture at 607 Coppin Building, Covington, Ky. Manufacturers' catalogues and samples are requested.

Nathan Myers, architect, Court Theatre Building, Market and High Streets, Newark, N. J., sails with Mrs.

Myers on December 6 to Naples. It is his intention to occupy three or four months in an intensive study of the fine arts of Italy and France. Mr. Myers is a graduate of the College of Architecture of Cornell University, class of 1896, and has since practised successfully, with his offices in Newark.

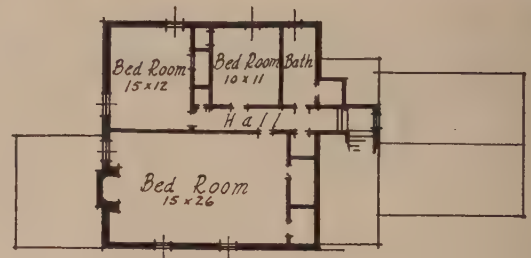
Arthur G. Tafel, architect, member American Institute of Architects, Louisville, Ky., announces his removal to his new studio building at 140 South Third, Louisville, Ky., from 304-307 Coleman Building, where he has had offices for the past ten years.

Philip F. Eddy, architect, announces a change in address to 213 Smith Building, 120 Union Street, Providence, R. I.



• FIRST FLOOR •

HOUSE, C. F. PIEHL, ROSLYN, LONG ISLAND



• SECOND FLOOR •

Viemeister & Brady, Architects.

Chas. Sheres, architect, announces his removal to more commodious and centrally located quarters at 17 East 42d Street, New York.

Harry James Manning, architect, announces the removal of his offices to the Capitol Life Insurance Building, Denver, Colo.

Mr. G. H. Carsley, architect, wishes to announce the removal of his office from rooms 3 and 4, Power Block Annex, to 634 Mound Street, Helena, Mont.

Albert F. Dayton, architect (License No. 51, W. Va.), announces the removal of his architectural office to a new location, room 12, Parker Building, 1417 Chapline Street, Wheeling, W. Va.

William Mayer, Jr., architect, 711 Bergenline Avenue, West New York, N. J., advises us that the architectural firm

of "Mayer and Mahnken," of West New York, has been dissolved. William Mayer, Jr., senior member of the firm, will continue the practice of architecture at the old address, 711 Bergenline Avenue, West New York, N. J., which was established in 1909.

Salts in Oil Smoke Injure Slate Roof

SALTS contained in the soot from an oil burner were found by the Bureau of Standards of the Department of Commerce to be the cause of extensive decay in the slate roof of the building in which the burner was housed. These salts, being soluble in water, were leached into the slate by the rains and were recrystallized in dry weather. The formation of the crystals tends to pry the particles of slate apart and produces an effect similar to frost action, only much more severe.

An Architect's Simple Engineering Problems

By DeWitt Clinton Pond, M.A.

Author of "Concrete Construction for Architects," "Drafting-Room Mathematics," etc.

SECOND ARTICLE

IN the previous article there was explained the process of determining the load that a floor slab might carry, and formulas were given for finding the tendency toward bending that the slab will have to resist in case this allowable load is placed upon it. This tendency toward bending, or bending moment, is given by formulas which have been found to apply to three general conditions. These conditions govern the design of simple beams, semi-continuous beams, and continuous beams when loads are evenly distributed over them, and their use was illustrated in Figures 1, 2, and 3.

By the use of the formula $M = \frac{1}{12}WL$, which governs the design of continuous beams carrying uniform loads, the bending moment on a slab 1 foot wide was found to be 587 foot-pounds or 7,044 inch-pounds.

The thickness of the slab is always given in inches as well as the diameters of the reinforcing bars and for this reason the bending moment is always formed in *inch*-pounds.

The method used in determining the depth of the slab can be described at great length, but unless this reader is more interested in the theory of engineering than the average architect it would hardly be worth the effort. All slabs of this sort are considered 12 inches wide as stated in the last article and under such conditions the depth is found by the formula $d^2 = M/1,279.5$, in which d is the distance from the top of the slab to the centre of the reinforcing steel.

The limits within which this formula can be used should be kept in mind. It applies to slabs, 1 foot wide, of stone concrete having a maximum compressive stress in the uppermost fibres of 650 pounds per square inch, as allowed by most building codes. In case the building code of the particular city in which an architect is established provides for a different allowable stress the coefficient 1,279.5 should be modified by proportion.

The application of the formula is very simple. M has been determined as 7,044 inch-pounds, so it is necessary to substitute it in the formula.

$$d^2 = \frac{7,044}{1,279.5} = 5.5$$

$$d = 2.345$$

It will be noted that this depth is from the top of the slab to the centre of the reinforcing steel and is *not* the total thickness of the slab, as all codes require that the centre of reinforcement shall be at least one inch above the bottom of the slab and that in no case shall any part of the reinforcement come within five-eighths of an inch from the bottom of the slab.

The thickness of the slab would have to be $2.345 + 1 = 3.345$ or $3\frac{1}{2}$ inches to meet the strict engineering requirements, but as was stated in the last article no floor slab can be less than 4 inches thick, so this general requirement of the code is the one that in this instance governs the condition.

One may wonder why it is necessary to apply the formula when the thickness of the slab is determined on this basis. The fact is that for the given conditions in which

there is a light live load of 40 pounds per square foot of floor area there is little need of applying the formula for floor slabs. However, it is seldom that the allowable live loads are as light as this. Under the usual conditions loads of 60, 75, or 100 pounds would have to be used, which would materially increase the bending moment, or M , and then the thickness of the floor slab for an eight-foot span would have to be greater than 4 inches. There are also codes which allow designers in certain cities to use a minimum thickness of 3 inches for roof slabs. In such a case, for a roof load of 40 pounds, the thickness of the slab would be determined by the engineering requirement as $3\frac{1}{2}$ inches, and not by the minimum allowed by the code. In any case the formula should be used as a check.

The thickness of the slab is determined in order that there should not be developed a too great compressive stress in the concrete. Nothing has been said so far as to the area of the steel reinforcement. Once the distance from the top of the slab to the centre of the steel has been found the method used in finding the area of the steel is not a difficult one. If a slab is 4 inches thick the distance from the top to the centre of the steel is 3 inches, as 1 inch is allowed for fire-proofing. This distance is usually denoted as d in any formula dealing with reinforcement in concrete slabs or beams.

Here again it might be possible to inspect the methods used in arriving at the formula that is used in determining the area of reinforcing steel, but this might confuse the reader rather than help him. This formula is given below.

$$M = f_s j d.$$

M is the bending moment which has already been found; in this case 7,044 inch-pounds. f_s is the stress in the steel which must be found and which is the only unknown quantity in the formula. j is a coefficient which, according to theory, should be determined but which, in common practice, is always taken as $\frac{7}{8}$. d is the depth, or 3 inches, as has been found in the present case.

Substituting all the known values in the formula the following result can be obtained:

$$7,044 = f_s \times \frac{7}{8} \times 3.$$

By transposing, the result given below can be obtained:

$$f_s = \frac{7,044 \times 8}{7 \times 3} = 2,683 \text{ pounds.}$$

The only difficulty that the reader may encounter in transposing the factors of the equation might be found in dividing 7,044 by $\frac{7}{8}$ and by 3. It needs to be remembered that dividing by $\frac{7}{8}$ is the same as if multiplying by $\frac{8}{7}$. If this is remembered the solution of the equation is by no means difficult.

The result is the number of pounds of tension that will be developed in the steel reinforcement in a section of slab 1 foot wide.

Now steel when put in testing machines is found to break at a stress that varies from 60,000 pounds to 66,000 pounds per square inch, but the average breaking point is found to be 64,000 pounds per square inch, and this is known as the ultimate breaking stress of steel. The ordinary code calls for a factor of safety of 4 when steel is under consideration, so the *safe unit working stress* of steel is considered as 16,000 pounds. In other words, a square inch of steel may be safely stressed to 16,000 pounds.

In the development of the formula it was found that the total stress on the steel was only 2,683 pounds, so there will be required much less than a square inch of steel in every foot of slab. The exact amount can be found by dividing 2,683 by 16,000, and the result will be found to be .167 square inches of steel in every foot of slab.

In every steel hand-book there are tables giving the areas of round and square bars, such as are used in reinforcing slabs, beams, and girders and by referring to such tables the following areas of small bars will be found:

$\frac{1}{4}$ -inch round bars.....	.0491 square inches
$\frac{3}{8}$ -inch round bars.....	.1104 " "
$\frac{1}{2}$ -inch round bars.....	.1963 " "
$\frac{3}{8}$ -inch square bars.....	.1406 " "
$\frac{1}{2}$ -inch square bars.....	.2500 " "

If it is desirable to use $\frac{3}{8}$ -inch square bars it will be seen that more than one in every foot will be required as the area of a single bar will be .1406 square inches and the required area is .167 square inches. On account of this the bars will have to be spaced closer than 12 inches on centres, and the method of finding the required distance is not difficult to understand.

First, the required area is divided by the area of one bar:
 $.167 \div .1406 = 1.19$.

The next step is to divide 12 inches by the result determined above.

$$12 \div 1.19 = 10 \text{ inches on centres.}$$

This completes the design of the slab. It has been found that the slab must be 4 inches thick and this thickness was based upon the requirement of the building code and not the result of the engineering formula. It has also been found that it must be reinforced by $\frac{3}{8}$ -inch square bars spaced 10 inches on centres.

It may seem that the determination of these results requires no small amount of calculation. Actually this is not the case. The entire design can be carried through on the first sheet of engineering data which usually is kept as a record of all engineering work connected with any building project. The loads are first listed. Then the depth of a typical slab is determined by the use of the formulas $M = \frac{1}{12}WL$ and $d^2 = M/1,279.5$. Then the area of reinforcement is found by the use of the formula $M = f_s \times \frac{1}{8}d$. All of this work can be carried through with only a small amount of work and if a slide rule is used the results can be found in a very short time.

One important consideration must be borne in mind, although in the present example it does not apply. The building codes of the various cities usually require that bars shall not be spaced on centres a distance greater than two and one-half times the thickness of the slab. If a 4-inch slab is used the spacing shall not be more than $4 \times 2\frac{1}{2} = 10$ inches on centres. This is the spacing determined above, but if the load had been lighter or the span smaller so that the bending moment would be less, then the use of smaller bars might have been required so that the spacing would not exceed 10 inches.

The problem given has dealt entirely with the design

of a rock-concrete slab spanning between beams spaced 8 feet on centres and reinforced with steel rods or bars. When a reinforced slab of this type is used the span is not necessarily limited to 8 feet, although the spacing of beams seldom exceeds this dimension. Such a slab can be designed for any span, although it is important to bear in mind whether the slab must be treated as a simple, a semi-continuous, or a continuous slab. In the case given above the design was for a continuous slab, and the end slabs would have to be designed with more reinforcement as the formula $M = \frac{1}{10}WL$ would have to be used.

Such a slab may be used in cases where a floor of rock concrete is installed, but where the ordinary cinder-concrete floor is required the architect is allowed to use different formulas which result in greater economy. Where the ordinary cinder-concrete slab is installed the floor comes under the classification of a fire-proof floor, the design is based upon formulas which have been determined as the result of experiment and the floor filling or slab must not exceed 8 feet in length. In this case the beams must be placed not more than 8 feet on centres.

In the calculations given in this and the previous article it was shown that a slab which had a total thickness of 4 inches was deep enough for the ordinary floor loads when the span did not exceed 8 feet. Therefore it is not customary to figure this depth for the ordinary cinder-concrete slab.

The one thing that must be determined is the area of steel used as reinforcement. This area is not determined directly on the basis of the bending moment, but usually by means of formulas given in the building codes. The following statement occurs in paragraph e, subdivision 4, Section 354, on page 82 of the New York Building Code:

"In determining the safe carrying capacity of concrete slab floor fillings the gross load in pounds per square foot of floor surface shall not exceed the product of the depth in inches of the reinforcement below the top of the slab, by the cross-sectional area in square inches per foot of width of all the tensional steel, divided by the square of the span in feet, all multiplied by the following coefficients when cinder concrete is used: 14,000 if the reinforcement is not continuous over the supports; 18,000 if the reinforcement consists of rods or other shapes securely hooked over or attached to the supports, and 26,000 if the reinforcement consists of steel fabric continuous over the supports, and, when stone concrete is used, 16,000, 20,000, and 30,000 respectively."

In other words, in the design of a cinder-concrete slab if there is a total load of 110 pounds per square foot upon a floor, this load shall not exceed the product of the depth in inches from the top of slab to centre of steel, which is usually 3 multiplied by X , the unknown cross sectional area of the steel, divided by the square of the span in feet ($8 \times 8 = 64$) and multiplied by 14,000, 18,000, or 26,000, depending upon the type of reinforcement and whether the slab acts as a simple beam, semi-continuous, or continuous beam. Under ordinary circumstances the slab acts as a continuous one reinforced by steel fabric and so the equation for a cinder-concrete slab can be written as follows:

$$110 = \frac{3x}{64} \times 26,000.$$

If the factors of this equation are transposed it may be written as shown below:

$$X = \frac{110 \times 64}{3 \times 26,000} = .090.$$

By referring to the supplementary pamphlet issued by the American Steel & Wire Company entitled "Triangle

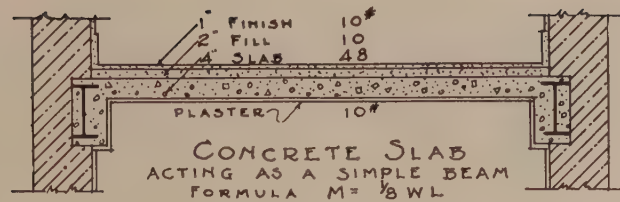


FIGURE 1

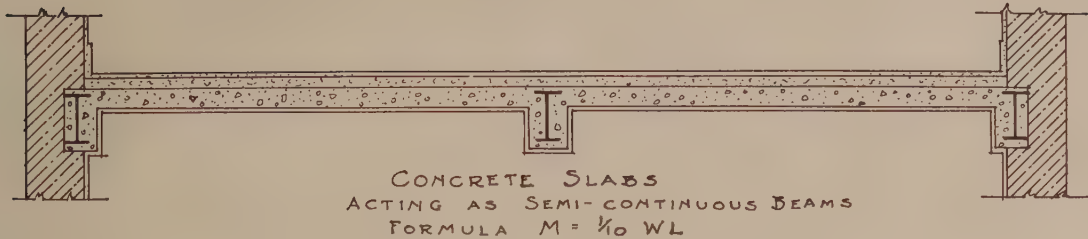


FIGURE 2

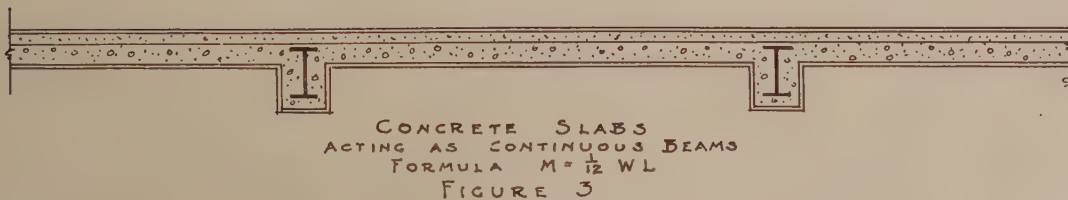


FIGURE 3

Mesh Concrete Reinforcement," or by referring to the "Pocket Companion" issued by the Carnegie Steel Company under the same heading, it will be seen that style .093 wire will provide proper reinforcement under the conditions given above.

The design of such a cinder-concrete slab will be taken up further in the following article, and as this type of floor is probably the most common, the method of determining the reinforcement is a very important one to know.

(To be continued.)

Quick-Setting Lime Blocks Developed by Bureau of Standards

A CAST lime building tile for use in making partitions has been developed at the Bureau of Standards by the Fellow of the National Lime Association. The material of which it is made sets so that it can be removed from the mould at the end of ten minutes. After twenty minutes it can be handled, and after seven days it has a compressive strength of one hundred pounds per square inch. It can be sawed, and nails can be driven into it.

The material is composed of five parts by volume of ground quicklime, ten of hydrate or slaked lime, and one of wood fibre. It is found to cure best when outdoors exposed to the weather. The new tile is about 20 per cent heavier than gypsum tile of the same size, and experiments are being conducted to see if the core volume can be increased without too great a sacrifice of strength.

The quick-setting lime of which the tile is made was developed several months ago by the Bureau of Standards, and can also be used for other purposes. Difficulty is found in shipping it, however.

Tests Point Way to Safe Elevators

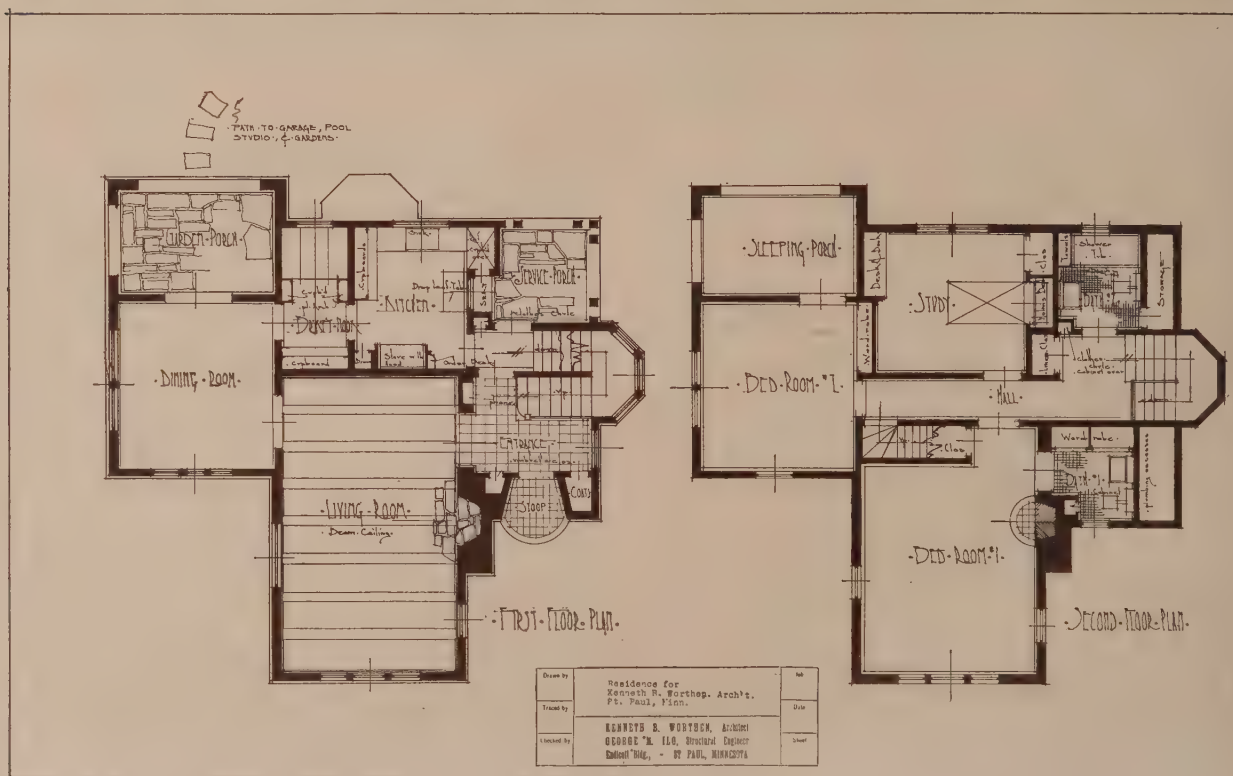
SEVENTY-FIVE per cent of fatal accidents are preventable, the United States Bureau finds. About three-fourths of all fatal elevator accidents are found to occur at the hoistway door, either because of the door being opened when the elevator is not there or because of the elevator starting when the door is open. These accidents can be prevented by a reliable interlock, as when such a device is used the elevator must be stopped at the floor before the door can be opened, and the door must be closed before the car can be started again.

During the past year the Bureau of Standards has been conducting tests to determine the reliability of the various types now on the market. The devices have been given endurance tests under normal conditions, they have been tested in a corrosive atmosphere, in a dust-laden atmosphere, without lubrication, and under conditions of misalignment likely to occur in practice.

The tests were conducted at the request of the city of Baltimore, and will permit city governments to base their approval of such devices on actual performance tests instead of on visual inspection alone.



LIVING-ROOM.



RESIDENCE, KENNETH E. WORTHEN, ST. PAUL, MINN.

Kenneth E. Worthen, Architect.



RESIDENCE, KENNETH E. WORTHEN, ST. PAUL, MINN.

Kenneth E. Worthen, Architect.

Penny Wise, Pound Foolish

THE small-town church, nearly always a conspicuous feature in the landscape, is too often a commonplace if not an ugly, formless affair, without outward grace or inward charm. And yet the cost of a competently designed small house of worship is no more, on the contrary is apt to be less, than the make-shift building put together without the services of a qualified architect. The following actual experience of a small congregation, as told in the *Lutheran Church Art*, is typical of many. The rural building committee, unless by good luck there happens to be some member of knowledge and experience upon it, is too apt to think of the architect as a needless luxury—and his modest fee as an extravagance. The story, as related of this particular congregation, shows that the retaining of a qualified architect would not only have provided for better building, but as well made for economy.

A certain congregation decided to build a small church. This case is a real one, and the incidents are not overstated. They were not very strong numerically. Their building project called for a chapel, to cost not over \$15,000. They learned that a good church architect might charge them from 6 per cent to 7 per cent of the estimated cost of the building for his services.

"Why spend \$900 to \$1,050 for architect's fees? What an enormous waste of money at the very start! We can get a cut-rate man to do the work for half price!" So they argued. None of them begrudged the man who designed their residence his 7 per cent. But with a church it was different!

At last somebody heard of a young man who offered to do the work for 4 per cent. The fact that he rendered 4 per cent service did not enter their minds. Drawings were made, many meetings held by a building committee (with absolute powers and a majority vote), and at last the designs were accepted.

The drawings were mere preliminary studies, made in pencil, and blue-printed. Very few dimensions were shown, few materials indicated, notes were few and far between, and there were no details whatever. All they got was four sheets, showing two plans and four elevations. Even these were very sketchy.

Their amateur architect had designed a cheap residence or two for real estate speculators, but he had never designed a church, and didn't know the first thing about his problem. He laid out the plan along the lines of a bungalow, except that all partitions were left out.

He did not know that even a frame church building must be laid out in comparatively short bays, and that it dare not be too wide. He did not know that a church building has no partitions to hold it together as a residence has. Hence, at each bay-line there must be a vertical post, at least 8 inches square, imbedded in the wall. Over each pair of posts, and spanning the church crosswise, must be a

properly designed roof-truss, carefully framed together of 8 by 8 timbers.

Their amateur architect provided for a building 32 feet wide, and he showed common bungalow-type walls, made of 2 by 4 studding! His roof was supported by common 2 by 6 rafters, with a 2 by 6 tie-beam six feet above the plate-line!

The pastor protested vigorously, demanding vertical posts and scissors trusses. But the building committee used their majority vote, and the flimsy walls and roof went on. Before the roof boards were in place, the walls began to buckle. Four heavy iron tie-rods, with big turn-buckles, had to be put in, and they may be seen in that church to this day.

Their architect did not know that a church ceiling ought to be made of matched boards, and that it ought to be nailed to the under side of the rafters. Or, he could have used thick roof-boards, and thicker rafters, spaced evenly, and exposed within. Instead of that, he made the common blunder of the inexperienced amateur architect. He provided for a false ceiling of plaster, suspended about six feet below the true ceiling line, and flat where it met with the tie-beam. This false ceiling formed a great pocket of dead air-space. It costs much more to overcome the chill of that pocket of dead air in winter, and in summer that great pocket of heated dead air acts as a huge radiator. A thermometer placed between the false ceiling and the roof registered 120 degrees F. one fine August afternoon!

HE COST THEM 15 PER CENT

This amateur architect charged the congregation 4 per cent for his service, such as it was. They paid him \$600, and thought it wise economy. But, shortly after dedication day, a man versed in economic planning and design went through the building with rule and tape-line. After some careful calculations, he found that the architect had included 7,460 cubic feet of waste space in the building. One of these pockets of waste space was a large room, over a false transept. At the price of building then prevailing, all this waste space represented a needless expenditure of \$1,501.

Then there were three huge windows back of altar, pulpit, and lectern. The congregation had to face a strong east light, and they saw the pastor as a black shadow, wherever he stood. These windows had to be removed some months later.

Counting waste space, expensive blunders which had to be corrected by carpenters getting \$1.25 per hour, the architect's original fee, and the removal of these windows, he cost them just \$2,200, or 15 per cent of the estimated cost of the building!

For half that money, they could have retained the most noted church architect in America. All these costly blunders would have been avoided from the start, and they would have had a beautiful church.



The Eleventh International Congress of Architects

THE "Proceedings" of the Eleventh International Congress of Architects held in Brussels, September 4 to 11, 1922, under the auspices of the "Societe Central d'Architecture de Belgique," has just been received.

The publication is unique, as it gives an insight into particularly the European point of view of such subjects as the following: "The Responsibilities of the Architect"; "Schedule of Charges"; "The Appointment of State and Municipal Architects"; "Architectural Copyright"; "The Aims and Duties of the Architect"; "Women Architects"; "Public National and International Competitions"; "City Planning"; "Small Houses"; "The Regional Influence of Architecture"; "The Preservation of Historic Monuments."

An International Exhibition of Architecture was also held in connection with the Congress, and many of the works exhibited have been reproduced in portfolio form by the Society Central d'Architecture de Belgique. A few copies of the proceedings and the portfolio of drawings may be had from the secretary of the Congress, R. Moenaert, Rue Artan, Brussels.

Members of the American section of the Congress include Cass Gilbert, chairman; Francis R. Allen, F.A.I.A.; William A. Boring; Glenn Brown, F.A.I.A.; Wm. Rutherford Mead, F.A.I.A.; Geo. Oakley Totten, Jr., M.A.I.A., secretary; J. Monroe Hewlett, F.A.I.A.; John Russell Pope, F.A.I.A.; C. Howard Walker, F.A.I.A.; C. C. Zantinger, F.A.I.A.

Lectures on Garden Design

at University of Pennsylvania School of Fine Arts,
Department of Landscape Architecture

THE School of Fine Arts announces a course of twelve illustrated lectures, planned to be of especial interest to amateurs, in the art of garden design. This course is open to the public and will be given by Mr. Robert Wheelwright, M.L.A., professor in charge of the new Department of Landscape Architecture, and by other speakers as announced.

The lectures will be given in the Fine Arts Building, southwest corner of 33d and Locust Streets, on Mondays, at 3 P. M., from October 20, 1924, to January 12, 1925, except December 29, 1924. Below are given the dates and subjects of those still to be given:

Dec. 1—VII. Plants and Planting.

Dec. 8—VIII. Esthetics—Design.

By Charles Downing Lay, landscape architect.

Dec. 15—IX. Informal Design.

Dec. 22—X. Sculpture Out of Doors.

By Mahonri Young, sculptor.

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Your plans are not complete unless you specify "2 in 1" lug brass dividing strip on your Terrazzo Floors. We shall be glad to furnish you samples on request.

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1925

Jan. 5—XI. Private Estates.

Jan. 12—XII. Public Service.

All lectures on Mondays at 3 P. M. in the Fine Arts Building.

The Builder's Code

THE builder considers his vocation worthy of respect and adulation as affording him distinct opportunity to serve society.

The builder desires to improve himself, increase his efficiency and enlarge his service, and by so doing he expects to profit through and by such service.

The builder realizes that he is a business man and ambitious to succeed, but that first he must be ethical and wish no success that is not founded on justice and morality.

The builder holds that he must exchange his product, his labor, his service, and his ideas for profit. He wants that profit to be legitimate and ethical and desires all parties in the exchange benefited.

The builder wants to be an example for his brother builders and uses his best efforts to elevate the standards of his vocation, and conduct his affairs so that others may find it wise, profitable, and conducive to happiness.

The builder wants to conduct his business so as to render perfect service, superior to his competitors, and, when in doubt, give service beyond the strict measure of obligation.

The builder believes in the Golden Rule: "All things, whatsoever ye would that men should do unto you, do ye even so unto them."

The builder contends that society best holds together when equal opportunity is accorded all men.—*Associated Building Contractors of Illinois.*



Walls finished with Cabot's Double-White; roof stained with Cabot's Creosote Stain. Jacob Stone, Jr., Architect, Minneapolis

CABOT'S

DOUBLE-WHITE

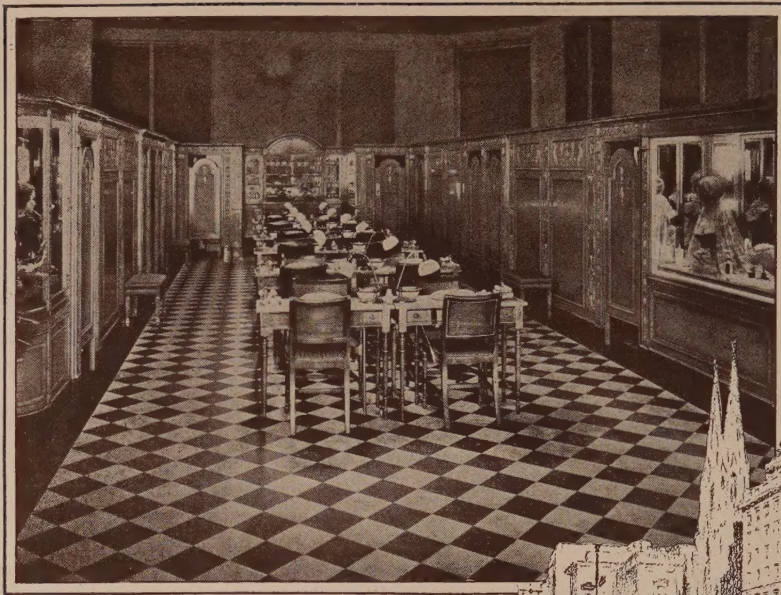
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Full information on request.

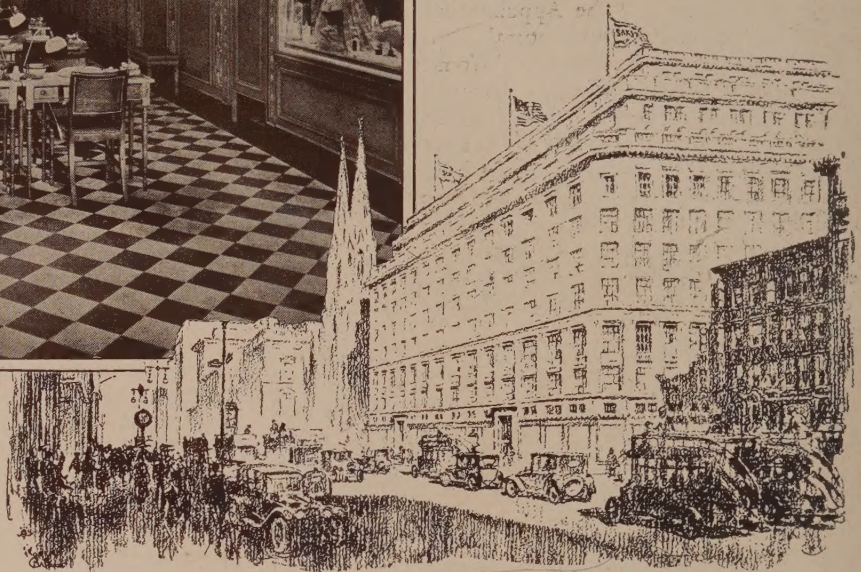
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The recently opened Saks & Company store at 5th Ave. and 50th St., New York. Architects: Starrett and Van Vleck, New York. Gold-Seal Rubber Tile and Gold-Seal Treadlite Tile installed by Bonded Floors Company, Inc.



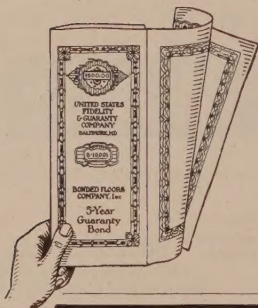
Saks-Fifth Avenue Installs Bonded Floors

Where unique effects were desired in the interior of this up-to-date store, Bonded Floors were used.

The Georgian Beauty Parlor (pictured) has a contrasting marble design of Rubber Tile—a floor with all the durability and resilience of the pure live rubber of which it is composed. The Children's Barber Shop has a harmonizing pattern of Gold-Seal Treadlite Tile, a quiet, resilient cork composition floor. In the Men's Shop and in the Luggage Shop, the floors are also of Treadlite Tile, in an effective combination of mahogany, brown and stone gray.

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*Schmidt, Garden
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Kaestner & Hecht Elevators

IT is only natural that the fittings for such a building as the Centennial Memorial Building, erected at Springfield, Illinois, to commemorate the one hundredth anniversary of the admission of that state into the union, be chosen to express fittingly the character of the building.

Kaestner & Hecht Elevators were selected to furnish the vertical transportation, because the smooth, silent operation of K&H Variable-Voltage Control and the nationally recognized leadership of K&H engineering practice assured that they would reflect in their service the quiet dignity that characterizes the architecture.

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For the service of every person in every architect's office, ARCHITECTURE announces important publications issued by manufacturers of building material and equipment. These publications may be had by addressing SERVICE DEPARTMENT, ARCHITECTURE, 597 Fifth Avenue, New York, or by addressing the companies listed below, in which case please mention ARCHITECTURE

COPPER AND BRASS RESEARCH ASSOCIATION 25 Broadway, New York

One of the most interesting forecasts of the building situation that has come to our attention was recently issued by this association.

The study is based on graphs which show the trend of construction activities and of influences which react upon the volume of construction. The Copper and Brass Association will be glad to send a copy of their survey to members of the profession.

The survey indicates that the shortage has been overcome and that 1924, with an expenditure of approximately \$5,000,000,000 for construction, will be the last year of the record-breaking period of activity in the building field.

In a statement discussing the situation disclosed by the graphs, William A. Willis, manager of the Copper and Brass Research Association, says:

"Since the war the situation in the construction field has been unusual, and, for that reason, difficult to analyze, especially with a view to future movements. Unprecedented construction has been recorded in 1922 and 1923, and various authorities place the increase in 1924, to date, over the high of 1923 at from 3 to 10 per cent.

"Our graphs present several interesting factors which affect the situation, and show the movement in commerce and business since November, 1922.

"The market in building materials has been spotty all season. This is in large part due to the recollection of unpleasant experiences of last year, and a determination to be on the safe side. During the last two weeks the market has steadied somewhat.

"Better understanding of the advantages of fall and winter building and knowledge of the proper methods to pursue, together with a general improvement in all lines of business, should bring into the market sufficient projects to more than offset any severity in climatic conditions, and the uncertainties that go with a national election. From the viewpoint of the building industry I believe the winter of 1924-1925 will be a good one."

TIRRILL GAS MACHINE CO. 50 Church St., New York

A great number of architectural schools over the country have been interested in the equipment for cooking, heating, and lighting for buildings outside the reach of the city's facilities. The Tirrill Company are glad to send their data to any school or college that desires complete information on the subject for their files.

BEST BROTHERS KEENE'S CEMENT CO. Medicine Lodge, Kan.

Published in accordance with A. I. A. standards, size 9 x 11, including filing tab, the folder issued by this concern is intended to serve as a complete specification covering all plastering with lime and Best Bros. Keene's Cement, as well as a file jacket to hold further information they will send to architects.

In line with the idea of a strictly service issue, they have

printed the specifications in typewriter type, outlining nothing but standard specifications, and have compiled it so that it might be conveniently and easily read and copied by architects. All matter of an advertising nature is excluded.

MELLON INSTITUTE OF INDUSTRIAL RESEARCH University of Pittsburgh, Pittsburgh, Pa.

An interesting pamphlet on the "Adaptability of Tile to Hospital Requirements," by Carl H. Geister, has recently been published, and copies may be had by architects.

The properties of tile are studied broadly and its adaptability as a flooring material is considered from chemical, physical, and hygienic viewpoints.

COMMON BRICK MANUFACTURERS' ASSN. OF AMERICA 2121 Discount Building, Cleveland, Ohio.

It is seldom that there is an absolutely new development in the use of brick, one of the most ancient materials known to the building industry.

Prominent architects of Chicago have, however, discovered a new method of obtaining interesting surface effects with Chicago common brick—effects which may inspire architects and builders in other cities to achieve the very latest effects with their own local material. The new effects—which have been arbitrarily grouped under the general classification of "skintled brickwork"—are produced in a very simple manner, by setting some of the brick beyond and others behind the normal building line, giving in addition to the natural irregularities of the brick itself strong light and shade effects.

The 16-page 8½ x 11 pamphlet illustrating these effects and which is entitled "Brickwork—Working Details," will be sent to architects free upon request.

GENERAL ELECTRIC COMPANY Schenectady, N. Y.

"Switchboards—Installation, Operation, and Maintenance" is a valuable book issued by General Electric that covers pretty completely the whole subject of switchboards.

Instructions are presented in text and illustrations for installing, operating and maintaining General Electric Switchboards.

Switchboards which receive the attention consistent with the instructions of this book will obtain the highest operating characteristics.

General Electric Switchboards are designed and constructed in strict compliance with the standards prescribed in both the Underwriters National Electric Code and the National Electric Safety Code. All persons who are engaged in their construction, installation, maintenance, or operation should thoroughly familiarize themselves with these rules and recommendations, and should practise them at all times.

THE BALLINGER COMPANY 100 East 42d Street, New York

This concern of architects and engineers has recently issued its folder on the new Atwater Kent Manufacturing